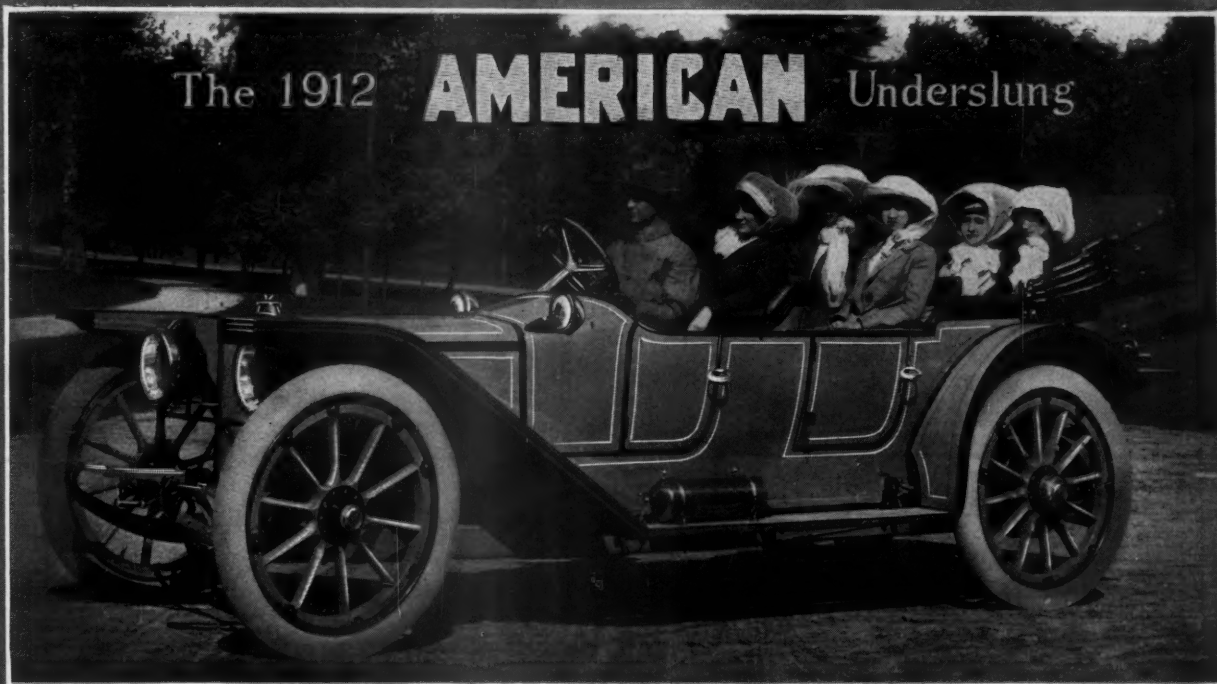


MOTOR AGE

VOLUME XXI

CHICAGO, JANUARY 18, 1912

NUMBER 3



The 1912 **AMERICAN** Underslung

The "American Traveler Special" (Type 56) \$4500

Six passengers. Wheelbase 140 inches; tires 41x4½ inches front and rear on demountable rims. Springs front, 40 inches; rear, 54 inches. Two auxiliary seats in the tonneau. Regular equipment includes top and top boot; 5 lamps, side

and tail lights electric, supplied by battery separate from ignition battery; Prest-O-Lite tank; Bosch magneto and storage battery; two extra rims; shock absorbers, foot rest, tire holders; horn; jack; tools and tire repair outfit.

The One Car That Does Not Go Out of Date

An "American" Underslung car of five years ago attracts immediate attention and is admired wherever it appears. The "American" Underslung models of 1912 are universally conceded the last word in grace and beauty.

At the Country Club, on the Boulevard—wherever a great number and variety of the world's finest cars are seen to the best advantage—the "American" is at once singled out in a class by itself as distinctive and distinguished, stylish and beautiful.

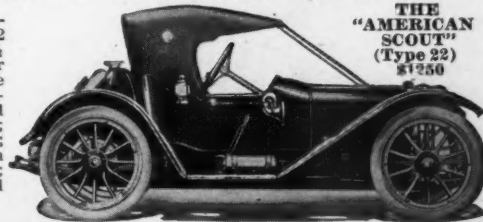
The "American" cars of 1912 described in this advertisement are all built on the underslung frame principle, in which we are the pioneers.

It is impossible, in this space, to give the details of the manifold advantages of underslung construction as exemplified in the "American"—but we have issued a treatise on the subject which is most interesting and convincing. Write for a copy today.

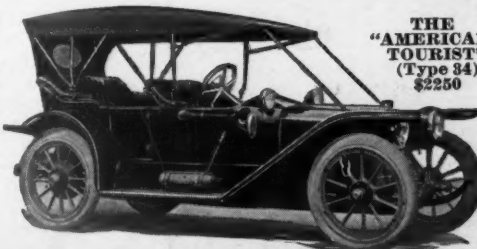
AMERICAN MOTORS COMPANY

Dept. H, INDIANAPOLIS, INDIANA

Strictly a two-passenger car. Wheelbase 102 inches; tires 36x3½ inches front and rear on Q. D. demountable rims. Regular equipment includes top and top boot; 5 lamps; Prest-O-Lite tank; Bosch high tension magneto; tire holders; horn; jack; tools and tire repair outfit.



THE
"AMERICAN
SCOUT"
(Type 22)
\$1250

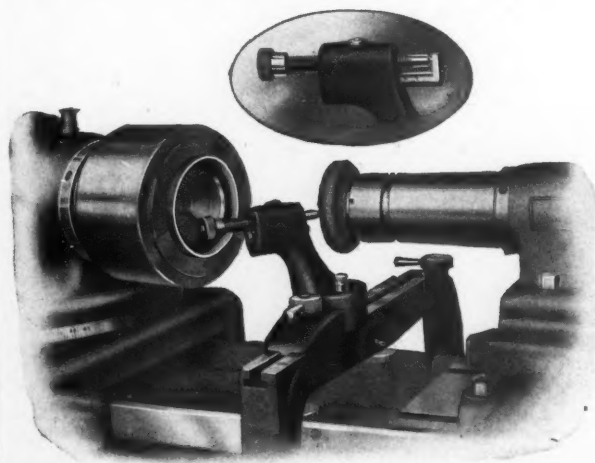
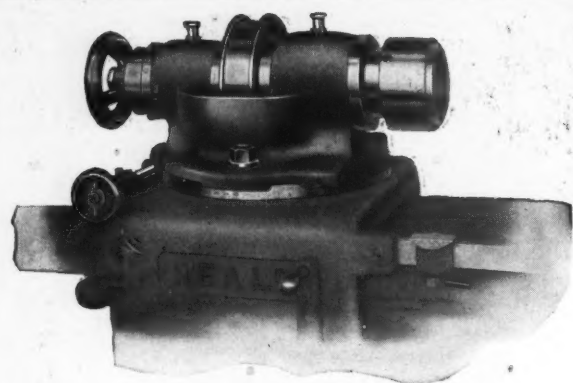


THE
"AMERICAN
TOURIST"
(Type 34)
\$2250

Four passengers. Wheelbase 118 inches; tires 37x4 inches front and rear on Q. D. demountable rims. Regular equipment includes top and top boot; 5 lamps, dash lights electric; Prest-O-Lite tank; Bosch magneto and storage battery; one extra rim; shock absorber; foot rest; tire holders; horn; jack; tools and tire repair outfit.

"Proved Best"

SHAWMUT TIRES

HOW TO FINISH BALL RACES QUICKLY AND EASILY

The 4" Collet Chuck and Radial Truing device shown herewith are designed especially for handling this work rapidly and economically

These two attachments used with our No. 75 Internal Grinding machine make a very efficient method of finishing the races in ball bearings; the collet chuck permits the operator to chuck the pieces accurately in the least possible time, a turn of the hand wheel being all that is necessary to locate and hold the work securely.

The radial truing device is a novel feature by which the face of the grinding wheel can be trued to any desired radius.

Our booklet on the No. 75 Internal Grinding machine is very interesting reading, because it tells about other things besides the machine, which you ought to know.

The Heald Machine Co.
26 New Bond St. WORCESTER, MASS.



GENERAL VIEW OF MAIN HALL OF GRAND CENTRAL PALACE

Palace Exhibition a Business Show

Thirty-Four Different Makes of Pleasure Cars Being Displayed Under Auspices of National Association of Automobile Manufacturers—Colonial Coupes Are Features—Center Control on Many Machines Illustrates Tendency.

NEW YORK, Jan. 15—It is a good business show which opened in the Grand Central palace last Wednesday evening and will remain open until Wednesday of this week. The new palace affords ample space for the thirty-four different makers of gasoline cars in addition to as many makers of commercial vehicles, and although the show does not contain in its list of car makers many of the names which have been associated with the industry since the start of the century, it nevertheless is a good representative class of makers, varying in the scale of merit over practically as wide a range or nearly so as the pleasure car exhibitors at the garden show which ended Saturday night.

It is true that of the thirty-four makers exhibiting many of them are names which

have been added to the roll of the industry within the last 4 years. Some have been added during the past season, and some are showing their first models this year. Side by side with these are other concerns which have been in the industry for a great many years.

Location of Exhibits

Looking over the thirty-four different exhibits of touring cars it is noticed that twenty-five of them are located on the main floor, some occupying the central court of honor, and the others flanking the walls on the four sides of this. There are shown twenty-six chassis and 112 cars of different types, the majority being touring cars, roadsters, a few limousines and several colonial types of coupes. There is not a number of limousine types proportional to

the number of exhibitors as was seen at the garden, but this is to be expected with the younger class of manufacturers, the majority of whom are building medium-priced cars.

It is a difficult role to write a special analysis of the cars seen at the palace after having written a similar one on the entire industry in Motor Age of January 4 issue and also January 11. The study of the exhibits at the palace can be taken as a good criterion of what the medium-priced maker who has been in the industry only 3 years or more is doing. A most apparent fact is that the cars are the equal of those seen last season so far as lines of body design are concerned. This applies to the touring car types, the roadster types, the coupe types and the single-compartment bodies, of



TRUCKS AND CARS ON FIRST BALCONY IN GRAND CENTRAL PALACE

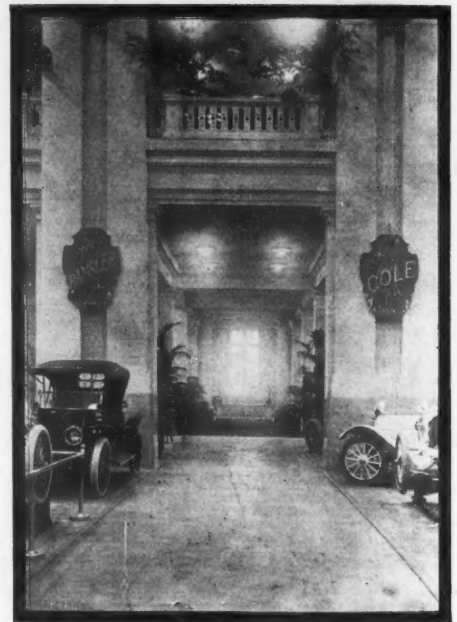
which a couple or three are exhibiting, notably the Rambler and Cole. A couple of years ago there was a marked difference in body styles between the high-priced and medium-priced cars, but this is entirely wanting today, and it is safe to say that the body lines give little indication of the money expended in the chassis, because there are many examples of cars appearing of equal value externally but with chassis differing as much as \$1,000 in price. This graceful body line effect is seen in the touring car as well as in the roadster.

From a standpoint of chassis exhibits, there scarcely is as much variety seen as last week, although the twenty-six different chassis shown are examples of modern construction, in fact some of them may be con-

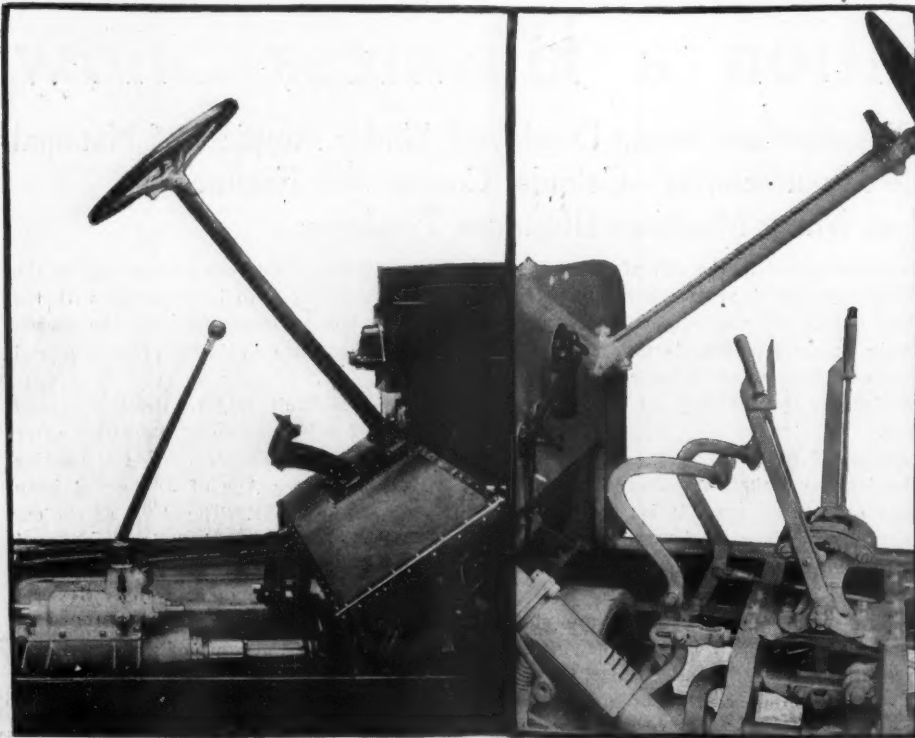
sidered leaders in their respective spheres. Abbott-Detroit and Fiat are the only concerns exhibiting two chassis, the Abbott showing both the 30 and 44 models, and the Fiat its four and six-cylinder types. There are only ten concerns not showing chassis of any types, but the majority of these have individual exhibits such as cutaway motors, gearsets or axle parts.

Novelties of the Show

From a novelty point of view one of the most interesting cars at the show, if not at both shows, is the Abbott-Detroit submarine gunboat, which is a runabout type with a sheet metal body, the rivets securing the different portions together showing as in a modern steel Pullman car. The body is given an unusual appearance by the V-shaped



MAIN AISLE OF PALACE



EXAMPLES OF CENTER CONTROL—REO AND MITCHELL

radiator, which is a novelty on American cars but one which has a considerable following abroad. This body is fitted on the 44 chassis.

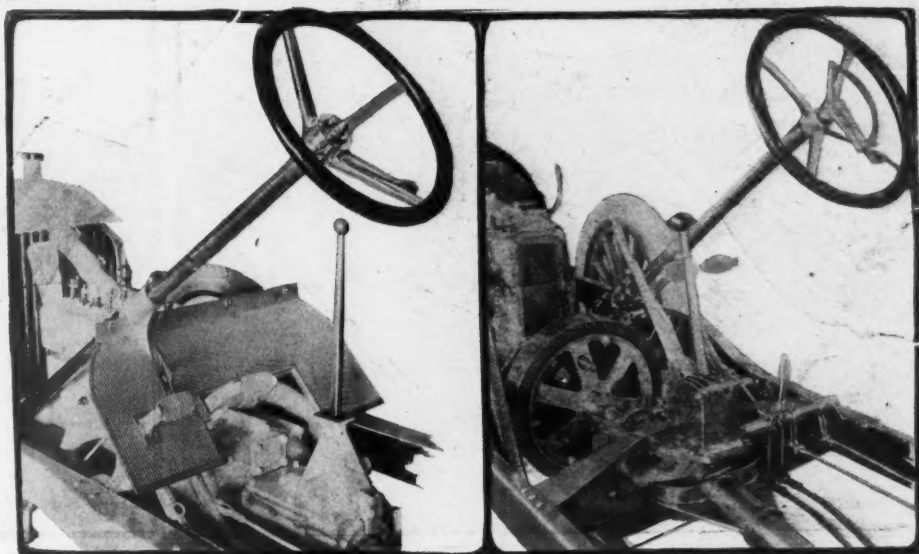
One feature seen in many of the colonial coupes is the folding seat which hinges to the left front of the dash where the steering wheel is mounted on the left side. This gives the coupe a three-passenger capacity and makes it an ideal winter vehicle.

The greatest novelty in the standard touring car design is the eight-passenger Schacht which has the standard front seat and rear tonneau seat and in addition a full width tonneau seat, the back of which is against the front seat so that the passengers ride facing the rear. This is the first time in which this design so common in horse-vehicle fields has been fitted in the touring car. A further feature of the body is a lifting windshield between the two seats which back each other. This can be raised

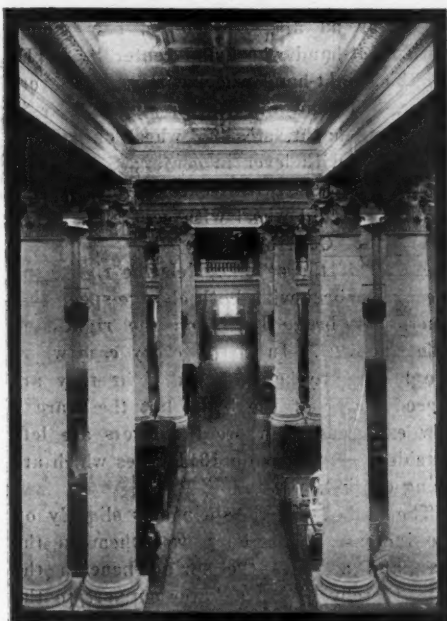
forming a partition between what is known as the tonneau compartment and that for the front seat.

This show might be designated a go-as-you-please one in the matter of self-starters. In a canvass of the thirty-four exhibitors at only one stand was it stated that self-starters were not fitted either as standards or optional equipment. At all of the other places they were standard or optional. Over half of the exhibitors stated frankly that they did not know what make they would fit as standard. That was an unsettled question, but that they would fit for the necessary price any make of starter which the buyer desired.

This applies to a certain extent to electric lighting also. One company agrees to fit both self-starter and electric lighting also. One company agrees to fit both self-starter and electric lighting outfit for \$85 above standard price. At another stand



EXAMPLES OF CENTER CONTROL—KING AND MARION



AISLE IN MAIN COURT

where self-starters are not shown fitted to any models exhibited, it was stated that a choice of any make would be given, the price ranging from \$20 to \$175. Where self-starters are shown in place on the cars they are in the majority of cases explosive gas types. A few compressed air styles are shown also.

The price of car which predominates at this show is that in which there is so much rivalry in sales, and when the self-starter craze took hold of the country, nearly all of the makers who are exhibiting were compelled to give practically any option in the matter of self-starters.

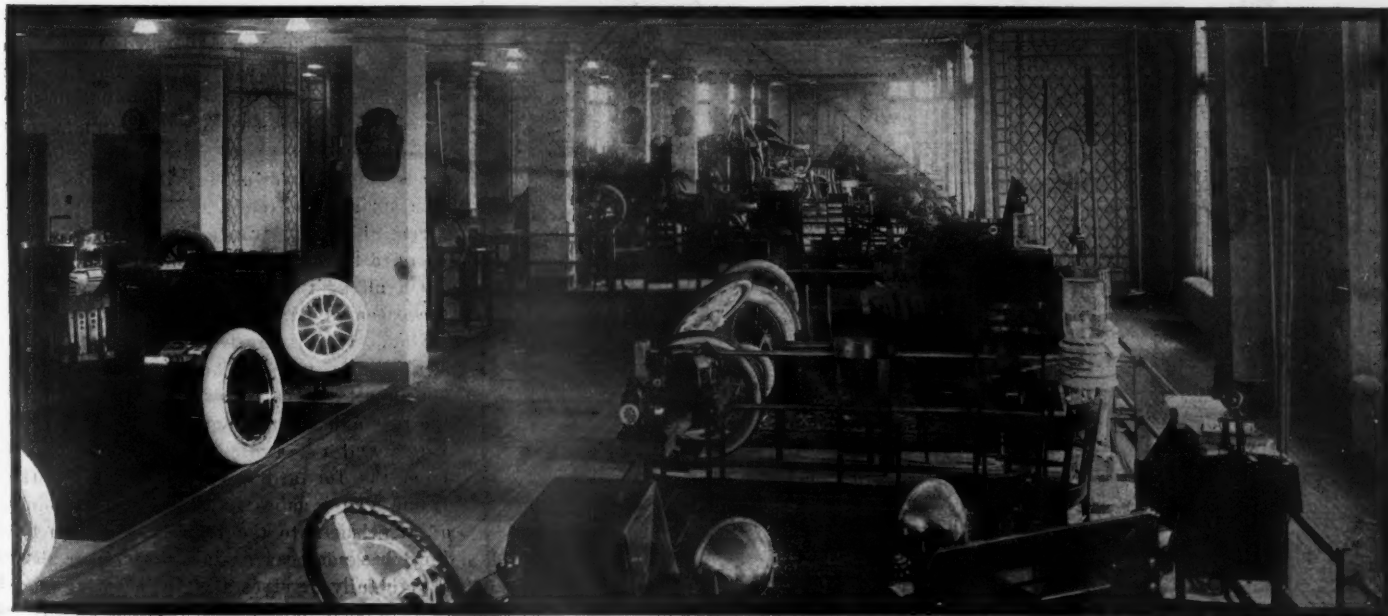
Matter of Electric Lighting

The landslide has not been so great in the matter of electric lighting. There are perhaps ten different firms showing electric generators of one maker or another fitted to the motor. The majority of these are located in rather improvised positions on the motor and give evidence of not having been considered when the original crank-

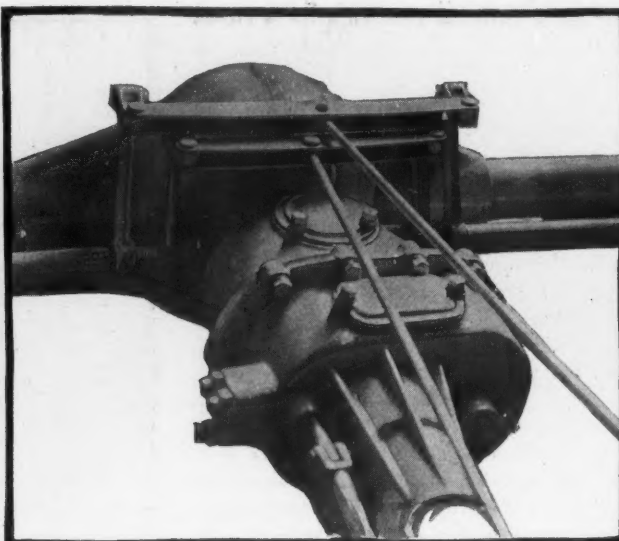
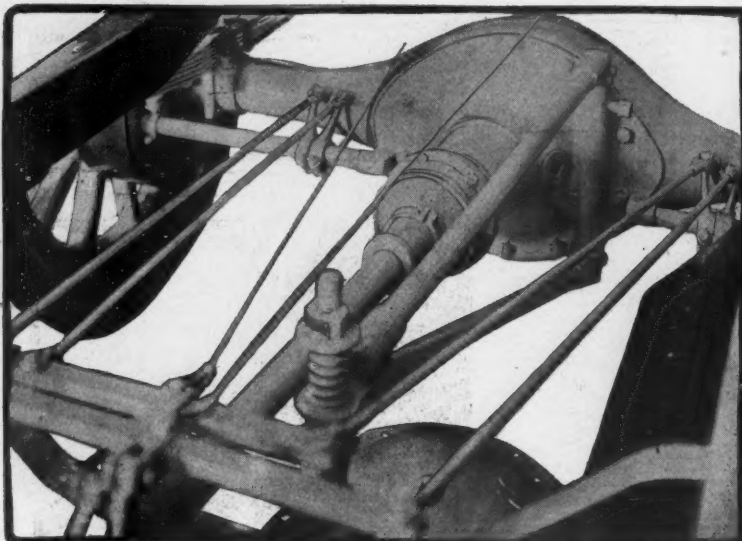
case design was brought out. The majority of them have mounted the generator over the magneto and drive it by chain from the magneto shaft. This makes the generator very accessible, but practically eliminates everything in the way of accessibility from the motor.

Velie is one of the few concerns that places the generator on the opposite side of the motor and has designed the crankcase so as to provide inclosed chain drive.

Looking at the more standard parts of the cars exhibited, one is surprised at the few makes of six-cylinders shown, the exponents being Fiat, Kline, Auburn, McFarlan and Havers. The Fiat is the only one using the en bloc casting. On the Kline use is made of the continuous waterjacket, the different cylinder castings having their adjacent faces cut away exposing the interior of the waterjacket. In assembly these faces are bolted together giving a continuous water space from the front to the rear cylinder. On the McFarlan and Havers sixes



VIEW OF ACCESSORY SECTION IN THE N. A. A. M. SHOW



BRAKE EQUALIZERS THAT ARE FOUND ON THE LION AND R. C. H.

the cylinders are cast in pairs. On the Auburn they are cast separately.

It is scarcely necessary to state that so far as the palace car is concerned it is essentially a fore-door year. There is not a single example of touring car that has not the fore-door body. There are three or four cases of roadster in which the fore-door is not used, these designs being in several cases models carried over from last year. The standard roadster is a very attractive vehicle, the remarks made with reference to the cars seen at the garden in last week's Motor Age applying with equal force to the present types. It was back in 1910 that the Cutting roadster with its fore-door body was first seen and it has remained until the present in much the same style, having those characteristics so common to all roadsters, namely, seats well in advance of

the rear axle, and room on the rear deck for gas tank and baggage trunk

Left-hand control has a very great following. Many concerns place the steering wheel on the left side, but put the levers in the centers; others mount the wheel on the right and leave the levers in the center. Some concerns show a variety of styles, having both steering wheel and levers on the right and left side. Some of the concerns showing left-hand control are: Krit, steering wheel on the left and levers at left; McFarlan, wheel on right and levers in center; Otto, some models with left-hand wheel and center levers and others with right-hand wheel and levers; R. C. H., left-hand wheel with center levers on all models; Imperial, right-hand wheel with center levers; Paterson, left-hand wheel with center levers and right-hand wheel with right-hand levers;

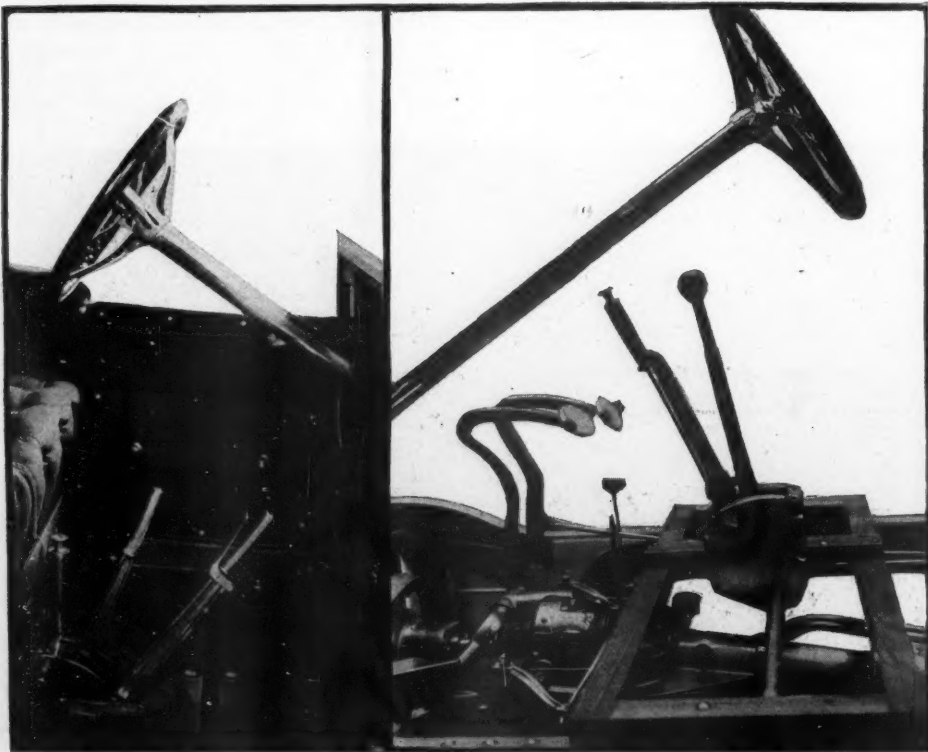
Herreshoff, left-hand wheel and single lever in center on all; Hupmobile, new model, with right-hand wheel and center lever; De Tamble, right-hand wheel with center lever; King, left-hand wheel with single lever in center; Schacht, steering wheel on left or right side with lever in center; Stuyvesant, left-hand wheel with center lever; Michigan, right-hand wheel with central lever.

Samples of Control

On all of the other models the right-hand steering wheel with both change-speed and emergency brake levers on the right-hand side are used. In nearly every case where the levers are kept on the right they are placed inside of the body, but there are a few examples of where the levers are left outside of the body on 1911 types which are being carried over.

The use of elliptic springs is slightly on the increase. The Krit uses them in the rear and attaches the spring beneath the axle, thereby giving a lower support to the body. The springs are also considerably tilted. The Middleby company, which has been associated with air-cooled cars up to the present, is showing nothing but a monobloc four-cylinder water-cooled type. In the chassis elliptic springs are used in front and rear, both sets being mounted on the axle. On all of its models the Paige-Detroit makes use of a single transverse semi-elliptic spring, supported in rear of the axle. The spring rests on a shoulder on the differential housing and at its upper end anchors to the cross member of the frame.

On all of the King cars use is made of the patented King type of semi-elliptic rear spring. It is scarcely correct to call it a semi-elliptic type. The rear end of the spring attaches to a swinging shackle over the rear axle. The front end attaches to the frame and the strain at a point one-third from the forward end also anchors to the frame side member. This gives two points of attachment to the frame. Although the Ford has not been exhibited at either show it rightfully deserves a place in spring mention in that it uses both front and rear semi-elliptic springs, positioned transversely.



EXAMPLES OF CENTER CONTROL—OTTO AND OVERLAND

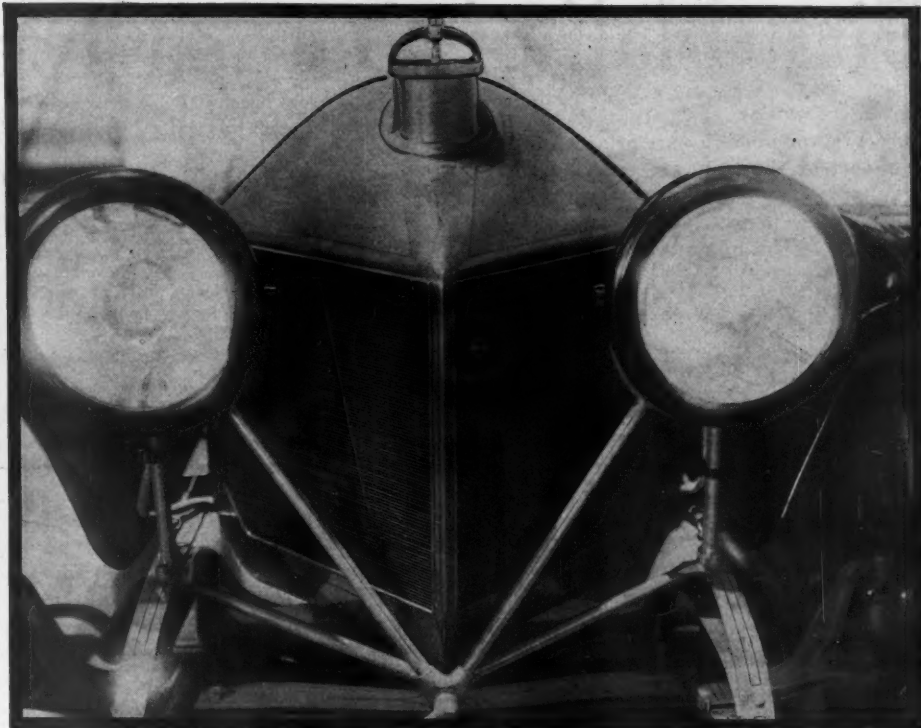


EXAMPLES OF CENTER CONTROL-CUTTING
AND IMPERIAL

On the Hupmobile a transverse rear spring is also used.

The use of the unit power plant and also the monobloc motor is seen on every hand at this show. In fact, these two characteristics are more general at the palace than they were at the garden. The King is the only example noticed in which the upper part of the crankcase is made a unit with the cylinder castings. The Regal has a model of this type. In the garden show of last week the Everitt was the only type of car using this construction. The Krit follows its previous custom of using bloc type motors in all of its models. As already stated the Middleby uses bloc design and is one of the few to employ a T-head casting. The details of the new R. C. H. already have been illustrated in Motor Age.

On the new Hupmobile an interesting feature of the bloc unit power construction is mounting a magneto in rear of the fourth cylinder. It rests on the flywheel casting



V-SHAPED RADIATOR ON ABBOTT ROADSTER

and is driven by silent chain. The Imperial uses a unit power plant, but employs cylinders cast in pairs.

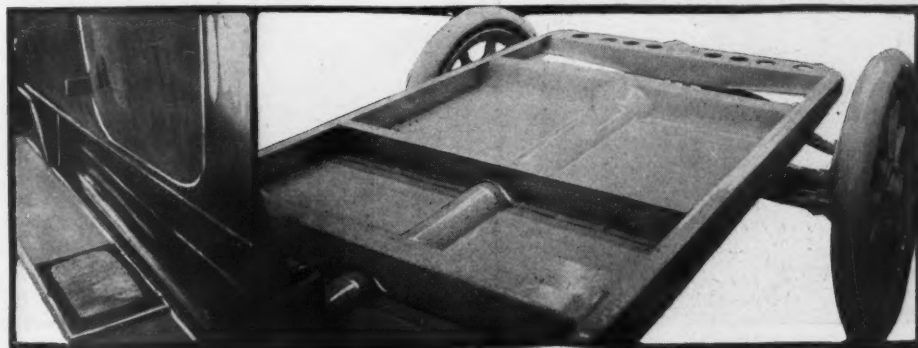
Regal is the only example of underslung frame exhibition, its position here corresponding with that occupied by the different American underslung models at the recent garden show. The Regal company is at present manufacturing three underslung types and two with the overslung frame. The company is also building motors with bloc castings on three types and with cylinders cast in pairs on two models. Right-hand steering wheel and levers are used throughout.

Baggage Carrying Facilities.

There are many interesting little details shown in conjunction with baggage-carrying facilities. On runabouts the trunk of the rear deck is omnipresent. On touring cars much use is being made of compartments on the running board. An example of this is the Warren-Detroit, which has a neat job of combining four compartments on the left running board. These extend the entire length of the running board. There are two shallow compartments, one at each end, and one of approximately double height in the

middle, the center one containing the battery. Snugly placed between these compartments and the side of the body is a Prest-O-Lite tank. It is almost obscured and has a cylindrical extension which covers the valve portion of the tank. On the DeTamble, between the running board and the frame, is a tool space nearly the entire length of the running board. It offers room for the battery and tire tool, as well as space for auxiliary oil cans if needed. This is a specially satisfactory place for these tools, as they are accessible without disturbing the tonneau passengers. On the McFarlan bodies is a transverse cylindrical baggage compartment beneath the rear of the chassis. At first view it resembles a gasoline tank. It serves admirably for carrying storm curtains, extra rugs, tire pump, jack, etc. It has a hinged door provided with lock.

On one of the Otto roadster models a special aim has been made to provide adequate baggage facilities. On the rear deck there is the big baggage trunk. Back of this is space for two extra cases and fitting inside of the casings is a cylindrical box in which tools, inner tubes, etc., can be carried.



OTTO'S MAT FOR DOOR AND HUPMOBILE SHEET METAL FRAME IDEA

First Half of Garden Pleases Makers

On the submarine gunboat design of the Abbott-Detroit facilities are provided in the rear part of the body for carrying tools.

Following are the concerns exhibiting gasoline pleasure cars: Great Western, Krit, Middleby, McFarlan, Otto, R. C. M., Paige-Detroit, Cutting, Imperial, Velie, Paterson, Herreshoff, Penn, Abbott-Detroit, Warren-Detroit, Lion, Stutz, Hupmobile, Cole, Rambler, Auburn, De Tamble, Regal, Fiat, Westcott, King, Pathfinder, Schacht, Stuyvesant, Bergdoll, Metz, Michigan, and Havers. There are several exhibitors of electric vehicles, these being Argo, Hupp and Ohio.

Pleasure Car Display Closes Amid Usual Display of Enthusiasm by the Many Exhibitors

Attendance More Than Satisfactory

Exact Figures Not Given Out but Secretary Downs Says 146,812 Passed Through Doors

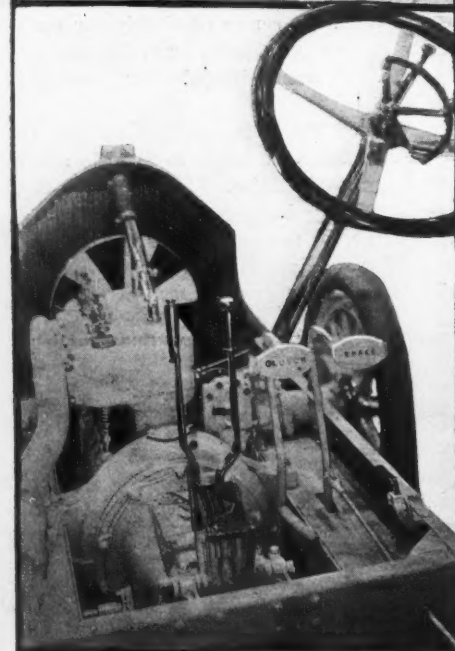
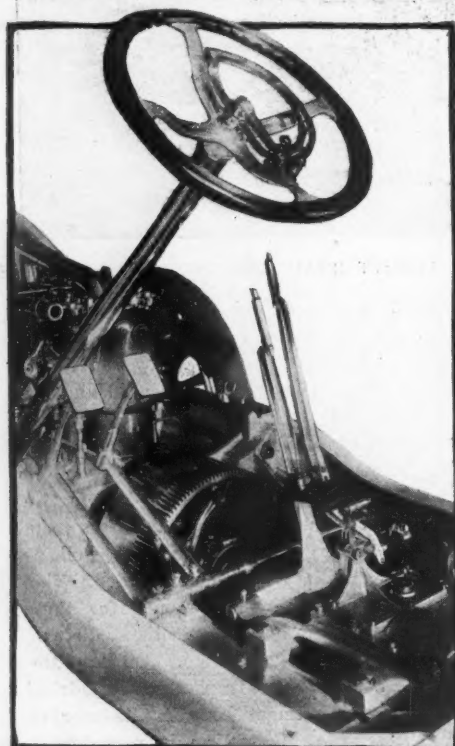
NEW YORK, Jan. 13—The first half of the last motor car exhibition in Madison Square garden closed a few minutes after 10:30 this evening, amid a riot of catalog confetti from the first and second balconies, the tooting of horns, and the playing of "Farewell Garden" from the balcony. Being the final scene of the last pleasure car exhibition, a little more enthusiasm and demonstration was anticipated, but there was little difference as compared with previous years, and in fact if there was any it was of a subjective rather than an objective nature.

Scarcely had the management realized that the closing hour was drawing near when two cars from the Pierce-Arrow exhibit were pushed towards the door, the crowds in the aisle parting to give way for the exit. A moment later Stearns, Lozier, Winton and Maxwell were passing the aisles and mixing up with the crowds of spectators. These exhibitors were all nearest the door and had a good opportunity for getting away. From the farthest point of the building started the White six at a slow pace along the aisle, those in the gallery who saw it moving without being pushed were quick to realize that a new era in the gasoline field was exhibiting itself, namely, a

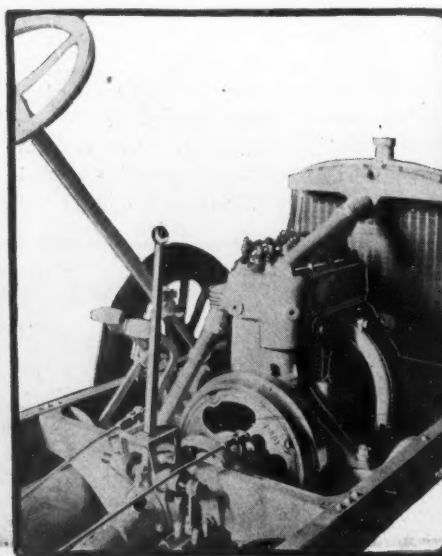
car moving out of a building under the power of electricity through its self-starting mechanism, the self-starter on the White being an electric type of the company's own design and manufacture. This demonstration convinced many of the value of the self-starter idea.

Towards the close of the show it was evident on all sides that every exhibitor was pleased. In a circuit of the car exhibits there scarcely was a place where several retail sales were not reported. It was the impression of at least 50 per cent. of the exhibitors of cars that this was a better retail show than any previous one held in the garden within the last 5 years. It is hard to explain this. In some cases it was the attractiveness of the particular body that proved the convincing argument. With others it was the fact that many had previously decided to buy cars but delayed the signing of the contract until the show. Quite a number of out of town sales were made. Several sales were also made by agents from Pennsylvania, New York state, and New England, who brought with them some of their prospects.

It was not expected that many new agencies were placed during the show, but a goodly number were given out chiefly with



EXAMPLES OF CENTER CONTROL—STUYVESANT AND DETAMBLE



CENTER CONTROL SCHEMES THAT ARE IN USE ON THE R. C. H. AND HUPMOBILE

medium-priced car from the middle west, which heretofore have not had metropolitan representation. In nearly every case the new agent purchased a car and due to his new born enthusiasm one or two retail sales were made.

Although the official figures of attendance for the show period have not as yet been given out it is known that the figures of last year were excelled. This is phenomenal in view of the cold weather which held the city in its grip for the opening 3 days. On opening night the figures were a little over 11,000 and on Tuesday night the management gave out that the attendance for the day was 22,000, and the total figure for that time slightly over 62,000. This was but little under the figures of a year ago for the same time.

Many of these dealers came in to meet the factory representatives and discuss matters of policy, etc. Conventions of these were held during the week. The Packard company, which generally has held a convention extending over 2 or more days, confined its efforts this year to a Coney Island type of celebration in Lyric hall Wednesday evening. It was a novel form of entertainment made up of different entertainment features installed in the building for the purpose. The Stearns company held a dinner which many of its dealers attended, Friday evening following the lecture by Charles Y. Knight on the sleeve-valve motor. The Overland company kept open house in the parlors on the second floor of the Prince George hotel every evening after the show and impromptu talks by many well up in the industry were given.

One feature of the show which has made itself popular with some has been the closer relationship established between the garden and the Broadway salesroom. The Packard people who exhibited but a single pleasure vehicle considered the innovation a great success. In connection with it the company had on exhibition at its New York salesroom a very complete line of different types of bodies, and a steady bus system was maintained between the garden and the salesroom. The company reported much

more effective work by being able to get the prospective to the private salesroom where a bigger line could be shown than was possible in any exhibit space.

According to Secretary M. L. Downs of the Madison Square garden show committee, the attendance during the exhibition of pleasure cars which closed Saturday night, established a new high-water mark in two particulars. In the first place the total attendance was 146,812, although exact figures were not given out officially. The paid attendance also was greater than ever before, but the exact figures are not available.

Starting January 6 in a blizzard, the attendance opening night was not quite up to the mark of 1911. On Monday it was about 2,000 over last year. Tuesday was only 800 larger but on Wednesday the building accommodated the largest motor crowd in its history. It is said that the total figures run up to 27,000, or more than 7,000 ahead of 1911. The last 3 days exceeded in attendance the corresponding days of last year's show by about 2,000 each day. This makes the attendance of 1912 15,000 more than last year.

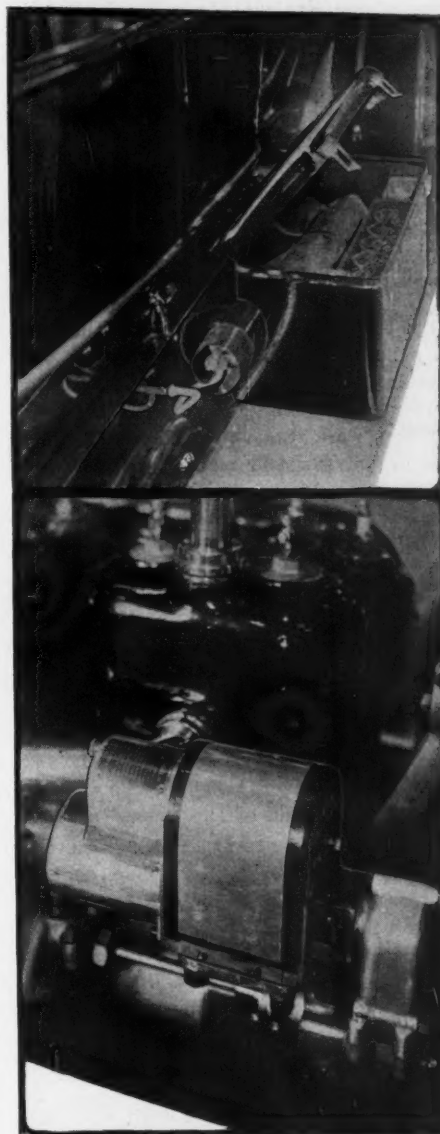
Dividing the show into thirteen sessions, this would make the average attendance at each session 11,447, or 22,894 each full day. Including the season press badges of which no record was made at the gates, the total attendance was not far from 24,000 a day.

While the garden shows for several years have not been primarily for retail business or the establishment of agencies, the show this year has proved an eye-opener in these particulars. Two companies that are rated within the leading score of makers of pleasure cars have reported that they have respectively done twice and five times the amount of business ever done before by them at Madison Square garden shows. Several others declare that they equalled the figures of their previous best show and only three companies acknowledge that they did less business than last year.

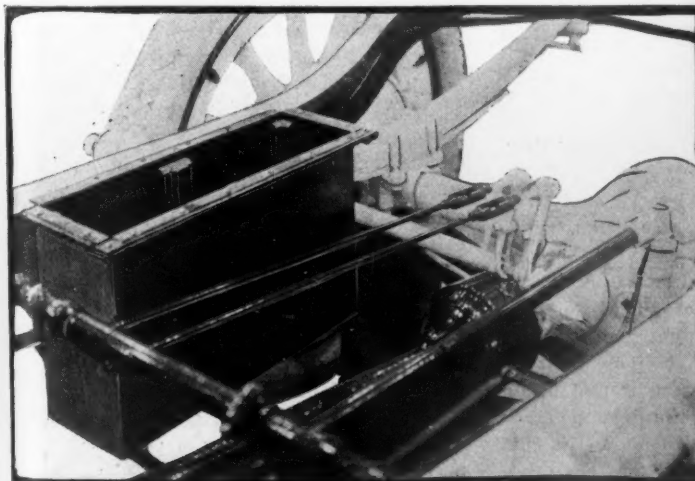
Secretary Downs said that returns had been received from over 80 per cent. of the special invitations sent out by the show committee to prospective users of motor cars.

The idea of official invitations has worked out satisfactorily all around.

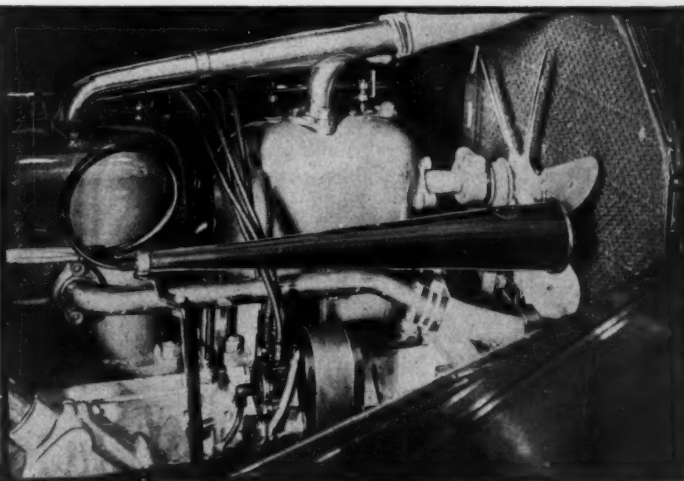
The new admission system proved to be economical and gave perfect satisfaction. It undoubtedly stopped some of the annoying leaks of previous years with no sacrifice of time or expense.



McFARLAN TOOL BOX AND VELIE WITH SET SPARK MAGNETO



BATTERY BOX ON COLE ATTACHED TO FRAME OF CHASSIS



MAGNETO SIDE OF IMPERIAL FOUR-CYLINDER MOTOR

Past Year Brings N. A. A. M. Prosperity

NEW YORK, Jan. 13—The most optimistic view of trade conditions and association work was taken by the members of the National Association of Automobile Manufacturers, Inc., who attended the annual meeting at the association office on Thursday. President Metzger, in his address, said in part:

"The year just ended has been, without exception, the most successful we have known. We have seen such a development in our membership, our financial resources and our influence that the association has once more taken its place as the unquestioned head of the industry. I am hopeful that next year my successor may be able to say that it is the only association making claim to national importance or assuming to carry out any part of that work for which this association was organized. Our membership embraces 90 per cent of the principal manufacturers. Our relations with other organizations are friendly. With the opening of the season we had sixty-three members, to which we have added twenty-five during the year, making a total of eighty-eight. A great part of our work, particularly that referring to the improvement of the highways, is directed through the American Automobile Association, whose officers render their services gratuitously and put wonderful energy behind their work, solely for the good of the cause."

Mr. Metzger dealt at length with the work of the commercial vehicle department, which was organized at Chicago last year, and is now rendering important services. He suggested that the department be continued and its powers increased so that it may be able to cope with all the difficult problems to appear in the near future.

Work of Legislative Committee

The legislative committee dealt with the association's efforts to bring about uniform motor vehicle laws in all the states and to promote federal legislation, a matter which is now before congress with fair prospects of enactment. Seven years ago, according to this report, there were no two motor vehicle laws having the same rate of miles per hour and there was no state which had any other provision than one providing a hard and fast miles-per-hour provision. The committee had been trying to correct these conditions and show that danger to the public depends not on the number of miles per hour, but on observation of the particular conditions of time and place. Lately one state after another has adopted this view, until a number of states, including New York, Illinois, Connecticut and Michigan, have passed laws in the changed form. The committee also has removed objections to the proposed federal law, concerning which the attorney general of the United States

Annual Meeting Held in New York During Shows—Report of President Metzger Tells of Growth of Organization Which Now Has Eighty-Eight Members—New Executive Committee Men



ANNUAL BANQUET OF MOTOR AND ACCESSORY MANUFACTURERS.

has approved the efforts and judgment of the committee.

The report of the commercial vehicle committee embraced many subjects of technical interest, as, for example, the standardization of parts and the adoption of a standard form of warranty. The good roads committee showed that its efforts had been directed largely toward the organization of state highway commissions where none exist and doing everything possible toward the promotion of federal and state aid. Incidentally it has rendered assistance in the promotion of the bill for the building of a Lincoln memorial highway from Washington to Gettysburg. The committee is deeply interested in a movement to bring together next fall, in one great convention hall, all of the interests that are seeking to bring about road improvements on national lines.

Transportation Matters

Transportation matters were dealt with in detail by the traffic committee, which recited the accomplishments of the year and showed great advantages secured for the industry. The advantages of the work of this department, formerly derived by car manufacturers only, is now extended also to members of the motor and accessory manufacturers and the department is now regarded by the railroads as the unquestioned authority in all matters relating to the transportation of parts and accessories.

G. W. Bennett, Hugh Chalmers, R. D. Chapin, A. L. Pope and Windsor T. White were elected members of the executive committee, which consists of fifteen members, the remainder holding over until 1913 and 1914.

The annual election of officers will take place at the monthly meeting of the executive committee, which will be held at the First Regiment armory, Chicago, on Wednesday, January 31.

EXIT THE A. L. A. M.

New York, Jan. 11—Final action toward dissolving the Association of Licensed Automobile Manufacturers was taken at the annual meeting yesterday, when the members voted to close its affairs, and to arrange for the Automobile Board of Trade to succeed it in the important work of trade co-operation in the motor car industry. Charles Clifton, the president for the past 7 years, made his final report and a unanimous vote of thanks was tendered to the officers and executive committee for their services in guiding the organization in its work and in advancing the interests of motor car manufacturing with its resultant benefits to the user.

HENRY GOODMAN ILL

New York, Jan. 16—Henry Goodman, sales manager for the Grinnel Electric Car Co., of Detroit, in attendance at the New York show, is ill with pneumonia and probably will be laid up for 3 weeks.

Accessory Association Makes Merry

Four Hundred Attend Annual Banquet and Enjoy Themselves—Election of Officers Returns Most of Old Board, With H. T. Dunn Again Chosen President—Now 251 Members



HELD AT WALDORF-ASTORIA HOTEL, IN NEW YORK CITY

NEW YORK, Jan. 13—The motor and Accessory Manufacturers' Association has been prominent throughout the week with its annual meeting and banquet. Following the annual meeting Wednesday, when directors were chosen, the new board met Friday and the following officers were elected to serve for 1 year:

President, H. T. Dunn, to succeed himself; first vice-president, James H. Foster, to succeed Charles T. Byrne, whose other duties prevented the possibility of his continuing in office; second vice-president, C. E. Whitney, to succeed himself; third vice-president, Claire L. Barnes, to succeed himself; secretary and assistant treasurer, L. M. Wainwright, who occupied the office of secretary during the past year.

The following committees were appointed by the president:

Executive committee, created by the board of directors, consisting of the president, first vice-president and last retiring president.

Show and allotment committee, D. J. Post, chairman; H. E. Raymond, C. T. Byrne, James H. Foster, F. C. Billings.

Finance committee, James H. Foster, chairman; H. E. Raymond, C. T. Byrne, W. H. Crosby.

Traffic committee, D. J. Post, chairman; Claire L. Barnes, George Baum.

Membership committee, L. M. Wainwright, chairman; C. E. Whitney, T. J. Wetzel.

There was no change made in the office of manager, William M. Sweet, who has been connected with the organization for the past 5 years, being continued in office.

The annual report of President Dunn was interesting, showing that the association now has 251 members as compared with 232 a year ago. During the year thirty-two members were elected and four reinstated.

President Dunn's Report

"No more persuasive argument of the value of the work of the credit department could be advanced than the fact that out of a total membership of 251, there are now 218 co-operating," said President Dunn. "At no time during the past year has it taken longer than 10 days for the department to secure replies to its requests for credit experience from practically all co-operating members. During the year upon request, 5,222 reports containing credit experiences on 2,003 firms, corporations, or individuals connected with the motor industry have been compiled and furnished to members."

On Wednesday night 400 members and guests sat down to the association's annual banquet in the huge ball-room of the Waldorf-Astoria. President Dunn was in the chair. James Clarence Harvey acted as toastmaster, and despite a heavy cold, kept the assemblage in a roar of laughter with his introductory witticisms. W. E. Metzger, president of the National Asso-

ciation of Automobile Manufacturers, who was introduced as a self-starter, complimented the M. and A. M. on its virility and urged even greater co-operation between it and the N. A. A. M. Colonel George Pope, representing the Automobile Board of Trade, gave a short history of the show situation and was accorded the honor of three hearty cheers and a tiger at the close of his address. Among the other speakers were: Cresswell MacLaughlin, J. Hartley Manners, and James Schemerhorn.

ELECTRIC MAKERS MEET

New York, Jan. 13—The Electric Automobile Manufacturers' Association held its first general meeting since organization in Cleveland in September last at the Waldorf-Astoria Thursday. This body, which is composed exclusively of makers of electric pleasure cars, is entirely different from the Electric Vehicle Association of America, and has twelve members at present, as follows: Argo Electric Vehicle Co., Saginaw, Mich.; Anderson Electric Car Co., Detroit, Mich.; Babcock Electric Carriage Co., Buffalo, N. Y.; Borland-Grannis Co., Chicago; Broc Electric Vehicle Co., Cleveland, O.; Columbus Buggy Co., Columbus, O.; Ohio Electric Car Co., Toledo, O.; C. P. Kimball Co., Chicago; Rauch & Lang Carriage Co., Cleveland, O.; Waverley Co., Chicago. The officers of the association are: President, L. E. Burr, Woods Motor Vehicle Co.; vice-president, R. C. Norton, Baker Motor Vehicle Co.; treasurer, C. D. Firestone, Columbus Buggy Co., and secretary, F. H. Dodge, Ohio Electric Car Co. The executive committee consists of Messrs. Rice, of the Waverley; Norton, of the Baker; Weber, of the Rauch & Lang; Burr, of the Wood, chairman; and Dodge, of the Ohio, secretary.

The meeting, which was attended by fifteen representatives of the electric pleasure car interests, was informal, its principal object being promotion of acquaintance among the members. Discussion of plans for mutual benefit, such as securing better recognition of the electric pleasure car at shows as regards space allotment, and formation of a show committee, constituted the only business features of the meeting. Meetings of the executive committee are held about once per month, the place of meeting being determined by the president of the association.

M. C. A. OFFICERS RE-ELECTED

New York, Jan. 16—A. L. Riker, of the Locomobile Co. of America, was elected vice-president of the Manufacturers' Contest Association at the annual meeting of that organization last week. The other officers were re-elected, as follows: Howard E. Coffin, president; E. R. Hollander, secretary-treasurer, and Russell A. Field, assistant secretary-treasurer.

The new board of directors consists of

Engineers Ready for Annual Meeting

H. E. Coffin, A. L. Riker and E. R. Hollander, as before and George M. Dickson and C. A. Emise. Howard Marmon remains chairman of the rules committee pending the appointment of his successor.

A committee of five to confer with the A. A. A. regarding future government of contests was named as follows. E. R. Hollander, chairman; A. I. Riker, C. A. Emise, M. C. Meigs and P. D. Wagoner.

The membership of the M. C. A. has increased from thirty-nine to ninety-three.

New York, Jan. 17—Special telegram—The present status of relations between the Manufacturers' Contest Association and the American Automobile Association, which still has several months to run, will be materially changed. A new contract to cover the situation has been framed by the committee of five appointed at the recent meeting of the M. C. A. At present this contract is being referred to various officials of the M. C. A. and when it is finally approved it will be presented to the A. A. A. for ratification and acceptance. The present arrangements make the A. A. A. the short governing body, the M. C. A. aids in framing the contest rules and also aids in financing the board.

COLE AGENTS AT SMOKER

New York, Jan. 15—Optimism and good fellowship were the striking features of the second annual show smoker held by the Colt-Stratton Co., at Healy's on Saturday night. The entire sales force of this concern, which is the general eastern distributor for the Cole Motor Car Co., as well as several prominent members of the engineering corps and associated concerns, were invited to participate in the informal jollification which has been made an annual event. After the close of the banquet which stretched well into Sunday, there were a series of short addresses given by J. J. Cole, of the Cole company; Harry L. Stratton, C. P. Henderson and A. F. Knobloch, of the Northway Motor Co., and several members of the selling force of the Cole cars from all parts of the country. At the close of Mr. Cole's address a gold medal was presented to Henry J. Habich who drove the Cole 30 at Old Orchard. W. L. Colt acted as toastmaster.

ORDERS \$1,000,000 WORTH OF CARS

New York, Jan. 17—Special telegram—Wyckoff, Church & Partridge, Inc., manufacturers of the Commer truck in the United States and the Guy Vaughan pleasure cars, have closed a contract with the Transportation Sales Co. by which the latter concern will represent the former in the exclusive agency for both lines of cars in the metropolitan district. It is announced that the selling company will take from the factory cars valued at over \$1,000,000 during 1912.

Anticipating an Important Session Committee Meetings Are Held During Show Week So That the Designers Will Be Able to Formulate Decisive Plan of Action

NEW YORK, Jan. 16—For the purpose of formulating the report to be made to the annual meeting of the Society of Automobile Engineers this week, the general standards committee of the society met today and heard preliminary reports of the various divisions. There were sixteen divisions scheduled to appear before the committee as follows:

Aluminum and Copper Alloys Division, Chairman Barr—The formal report was not presented but a letter from the chairman was received recommending that alloy number 30 be changed. The recommendation was received and it was voted to adopt it as part of the report.

Bearings Division—No report.

Broaches Division, C. W. Spicer acting chairman—There was some debate over the acceptance of Mr. Spicer's reference to multiple splines on shafts. The chairman asked to know something of the attitude of the committee as to whether the outside of the shaft or the sides of the holes should be finished. There was an effort made to eliminate that part of the reference from the report but the committee voted to submit it.

Carburetor Division, C. W. Stiger, acting chairman—This report does not contemplate any recommendations about the carburetors themselves but will treat of standardization of brackets, hangings and other fittings. Mr. Stiger stated that the report is incomplete but will be ready for presentation.

Frames Sections Division, J. G. Perrin, chairman—This report will be reduced to cover only three or four heads, as follows: Chemical composition, height of section, size of tapered end and drop design.

Iron and Steel Division, Henry Souther, chairman—The printed report as submitted was recommended.

Lock Washers Division, J. E. Wilson, chairman—Nothing new developed with regard to this division, differing in any material way from the last report submitted.

Miscellaneous Division, A. L. Riker, chairman—There were seven subjects under this head. The first as to fusible plugs for gasoline tanks provoked a lively debate. It appears that the municipal authorities of New York contemplated passing an ordinance providing for the insertion of fusible plugs in gasoline tanks and for the draining of such tanks before entering any garage. The committee would not accept any such suggestion and the division in charge of that subject recommended that a safety valve be provided for the top of pressure tanks, gauged to

one-tenth of the bursting strength of the tank and for a vent in the gravity system. This will be presented.

A series of magneto dimensions was recommended which is of sufficient breadth to take in most of the standard makes.

The committee on electric lighting outfits was asked to reconsider its report as it was deemed incomplete. Action was deferred on the matter of spark plug tread tolerances.

The report of standard gauge for all kinds of cars was tabled in committee and was not presented.

With regard to oversize cylinders, the division covering that subject recommended that two grindings be provided in the standardization, allowing .02 and .04 enlargement of the diameters, respectively, for the first and the second.

The division on bushed rods and yoke ends reported favorably toward including a bushing in standard joints as an option.

Seamless Steel Tubes Division, H. W. Alden, chairman—No changes recommended in the lists.

Sheet Metals Division, T. V. Buckwalter, chairman—Printed report presented.

Truck Standards Division, W. P. Kennedy, chairman—This division reported that it had agreed on a method of procedure but made no report.

Springs Division, A. C. Bergman, chairman—Printed report submitted.

Wheel Dimensions and Fastenings for Tires Division, W. P. Kennedy, chairman—Report later.

Motor Standardization—Tabled.

Hub Cap Standardization—Will be submitted to miscellaneous division.

S. A. E. Screw Thread Tolerance—Not presented.

LATE NEW YORK TRADE ITEMS

New York, Jan. 16—The Knickerbocker Motor Truck Mfg. Co. is completing a concrete factory building on East One Hundred and Fiftieth street near the Harlem river. The new building will add materially to the manufacturing facilities of the company.

In a recent accessibility test of one of the new Knickerbocker trucks it was found that it was possible to remove the motor from the car in a fraction under 25 minutes.

C. J. Widmer has been appointed general manager of the Eclipse Truck Co.

The Rowe Motor Co. will be reorganized in the immediate future under the name of the Rowe Motor Mfg. Co. It is the announced intention of the company to manufacture its cars on a commercial scale for this season.

Tire Makers Listen to Dealers' Appeal

New Schedule of Prices Announced by Some of the Rubber Companies Intended to Benefit the Middleman and Not Consumers—Belief Slash in List Will Be Universal

NEW YORK, Jan. 15—The horizontal slash in tire prices announced by several of the leading manufacturing companies last week has spread and extended until it is now recognized to be almost universal. As stated in last week's issue of Motor Age, the reduction in prices is not effective as far as the consumers' list prices are concerned. The United States Tire Co., Firestone, Goodrich and one or two others have made definite statements to the effect that the new scale was in force. The Empire and others frankly state that the cut is being met pending the announcement of a new list of prices. The Diamond company denies that any change has been made in its prices, although there is some conflict as to the Diamond position in the minds of competitors. The Republic openly states that it is always a little slow in meeting changes in its list, but officers predict that such changes will be made before the end of the week. Goodyear is non-committal and it is generally accepted by the other companies that corresponding cuts in their lists will be made promptly to meet the new conditions.

One way of making the cut is to bill tires to dealers now under date of May 10 or thereabouts at full list prices and then allow the trade a discount of 5 per cent. This in effect would mean something like 7 per cent off from the old level of prices to dealers.

So far there has been no action taken by any of the companies to touch the consumers' list. Most of the companies state that the reduction was made to ameliorate the condition of the dealer who, it is said, has been doing business on a narrow margin of profit. It is generally reported that the cut is experimental, in a sense, on the part of the first concerns to take action and resulted from a mass of appeals from the dealers.

DECATUR TRUCK TEST

New York, Jan. 17—Special telegram—Under official sanction, the Hoosier Limited, a 1½-ton Decatur truck equipped with pneumatic tires, will complete its non-stop motor run under load at 8 o'clock tonight, after accomplishing 168 hours of service. The truck is under official observation continuously. The course covered has been largely upon the streets of New York city, but has extended up-state into Westchester county, Connecticut and Long Island. Weather conditions have been severely trying on car and crew. After the end of 168 hours of running, the truck will head northeast by east and lay a course for Boston.

According to the schedule the start for Boston will be made Thursday morning with a full load of oil consigned to the Standard Oil Co.'s Boston branch. The same conditions have been provided for the run to Boston that have obtained during the 7 days the car has been operating around New York. Stanley A. Martin is in charge of the enterprise. Up to noon Tuesday the mileage covered was 858; gasoline consumed, 102 gallons; oil, 28 quarts, and water, 11 quarts.

ALCO STILL ON THE JOB

New York, Jan. 16—Working steadily in the Jersey hills, the Alco 3½-ton truck which started on a 14-day trial in the service of the United States Express Co. on January 6 is still laboring on its non-motor-stop run. When it had been going for 168 hours it passed the record mark established last year by a similar truck.

The tabulated figures covering the run up to last Friday show that the truck is averaging 65 miles a day and making over 101 stops for delivery and loading in each 24 hours. The average load carried during each day was 31,627 pounds or about 15½ tons of express freight. The gasoline consumption at 168 hours, the former record, had been 186 gallons or about 1½ gallons for each hour of service. This would be 27 gallons a day.

There is a regular schedule laid out for the big car, most of it being series of runs between Communipaw and Hoboken, but in addition to this course the truck is used in delivering and picking up the regular service of the company throughout a wide district. The intention of the American Locomotive Co. is to keep the truck running 336 hours continuously.

The truck has done the work formerly done by five two-horse teams and ten men. It requires the services of but four express employes throughout the whole 24 hours. On Tuesday noon the truck had accomplished 249 hours without an adjustment. The truck makes from fourteen to twenty trips of 4 miles each during the day.

On the second day of the run the car encountered a snow storm of great severity and since then there have been two blizzards to make operation disagreeable. The frozen roads have presented practically every element of poor going. Some of the grades are steep and under the snow the extra labor of the car has been very great. Hundreds of storm-bound horses and horse-drawn vehicles have been passed by the truck during the test. Three drivers, working in 8-hour shifts are handling the

car. The following table shows the detailed work of the truck up to the former record mark.

Date	Mileage	No. of stops	Load
Jan. 6.....	79	132	19,000
Jan. 7.....	61	90	36,600
Jan. 8.....	59	92	31,450
Jan. 9.....	64	102	27,425
Jan. 10.....	62	92	27,187
Jan. 11.....	67	103	36,645
Jan. 12.....	65	98	38,890
Totals	457	709	217,197

ENGINEER H. J. EDWARDS RESIGNS

New York, Jan. 17—Special telegram—H. J. Edwards, chief engineer of the United States Motor Co., New York city, has resigned to take effect during the month of February. Mr. Edwards has been one of the most prominent motor car engineers in the country, his name having been linked with the Stoddard-Dayton from its inception until its absorption by the United States Motors, at which time Mr. Edwards was made chief engineer of all the companies in this corporation. At the time of his appointment as chief engineer for the United States Motors he moved to New York, where he at present resides. Mr. Edwards stands out as a progressive type. He was among the first to develop the valve-in-the-head type of motor and was one of the few to bring out the present Knight double-sleeve type, the present six-cylinder Stoddard-Dayton being of his design. It is known at the present time what course Mr. Edwards is to follow.

RESPONSIBLE FOR DEMONSTRATOR

New York, Jan. 16—According to an interesting decision handed down by the first appellate division of the New York supreme court in the case of Wooding vs. Thom it is unanimously held that a motor car company is liable for damages when its demonstrator allows an employe of a prospective purchaser to run the car, providing an accident occurs.

In this case the Thom company in endeavoring to sell a car, employed a demonstrator who allowed the chauffeur of the prospective purchaser to operate it on the streets of New York with the result that a young woman was knocked down and badly hurt, owing to the lack of skill displayed by the chauffeur. The court held that the Thom company was responsible for the acts of its demonstrator but that the prospective purchaser, who had not authorized his chauffeur to engage in a driving test of the car, was not liable in damages.

SYRACUSE WOULD MOTORIZE

New York, Jan. 13—Commissioner of Public Safety H. E. Hessler, of Syracuse, N. Y., in his annual report, recommends the securing of motor cars for the fire chiefs and the motorizing of the fire apparatus used at No. 1 company.

Recent Litigation in Motor Industry

NEW YORK, Jan. 15—Chain grip companies are lining up for another sharp battle in the courts, which may prove the beginning or the ending of a hard campaign. On January 11 Judge Hough of the United States district court, southern district of New York, issued a temporary injunction against the manufacture, sale and use of the Atlas chain grip in the suit of the Weed Chain Tire Grip Co.

The motion for preliminary injunction pending the final disposition of the case is set for January 26 before Judge La-combe and answer is required by January 20. The point at issue between the parties is as to the snugness with which the respective chains fit the tires. The Weed company has been successful in a long series of suits against chain manufacturers and the Parsons patents have been affirmed on numerous occasions. The complainants state that chains of the Atlas type, fitting snugly to the wheel, have been contemplated in some of the rulings and assert that the Atlas company has had a chance to defend its device in the recent suit brought against the Automobile Co-operative Association of America. The Weed party declares that such defense was not made, allowing the case to go by default.

The Atlas Chain Co. appeared in court on January 13 and moved that the temporary injunction be set aside on the ground that the company is not a resident of Manhattan and that suit against it should have been brought in the eastern district of New York, at Brooklyn. This was denied because the charter of the Atlas company gave 25 Wall street as its residence, despite the fact that the company's factory and offices are in the Bush Terminal on Long Island.

On behalf of the Atlas company the announcement is made officially that the residence of the company given in the charter was established before the company really was formed. The address given was that of the attorney that drew the charter and that the factory and offices never have been in Manhattan.

The Atlas people reply that all of the cases so far instituted by the Weed company, in which that concern has been successful in the courts have been founded upon infringements that were material as against the Parsons patents. On the other hand, however, they state that there are two decisions of the United States courts that uphold their contention that the snug-fitting chain is not an infringement. One of these was rendered by Judge Amidon at Boston and the other by Judge Angel in Detroit.

In the circuit court of appeals at Chicago, it is claimed, a decision was rendered to the effect that if a chain is fitted loosely to the wheel so it falls to

Judge Hough Issues Temporary Injunction Against Atlas Chain Grip in Weed Suit—Morgan & Wright Can Make Nobby Treads Until Appeal Case Is Decided—Ever Ready Restrained from Making Horn Imitating the Type L Klaxon

the ground in front of the wheel by the force of gravity, it may infringe the Parsons patent, but if it fits snugly and does not fall to the ground by gravity it is not such an infringement.

The Atlas company also states that the reason for its failure to defend the Co-operative case was due to the fact that the defending concern was not in position to carry on a long legal fight in the upper courts and that it would have been obliged to shoulder a very large portion of the defense without being primarily a party to the suit.

After the court had overruled the motion for a stay of the injunction the complainants caused a copy of the order to be served upon the Atlas representatives in the basement of Madison Square garden and the exhibit was closed at once.

RESPIRE FOR MORGAN & WRIGHT

New York, Jan. 15—On motion of attorneys for Morgan & Wright, the decree entered in the suit of the Republic Rubber Co. vs. Morgan & Wright provides for the suspension of the preliminary injunction granted to the Republic company, pending final hearing of the cause on appeal.

District Judge Hazel heard counsel for both sides and ruled that the injunction should be suspended until the case was finally adjudicated in the United States circuit court of appeals, which may conclude the case at any time within the present year. In fact it might be possible that the matter remain unfinished for a longer period. The probabilities in the case are that it will be cleared up before September.

In the meantime the defendants are placed under bond of \$25,000 which was required to be filed to cover possible damages to the complainant that may arise from the continuance of manufacture by the defendant between the time of rendering the present decision and final adjudication. This bond does not cover possible damages that accrued prior to the decision. The defendants are given 30 days to perfect their appeal to the upper court for revision.

As long as the present status is main-

tained, Morgan & Wright are not forbidden to manufacture and sell the type of tire which formed the subject matter of the suit.

Following the decision, the United States Tire Co. makes the following statement:

"The United States Tire Co. announces to the trade and to consumers throughout the country that the manufacture and sale of Nobby tread tires is continuing as heretofore. This statement is supplemented with an announcement to the effect that the company is under no prohibition from the courts.

"Application had been made for an injunction to restrain the United States Tire Co. from marketing Nobby tread tires pending the result of an appeal, but the court ruled that the injunction be suspended pending the appeal. This means, of course, that the handling of the tire will be carried on by the company in the same manner as previously."

EVER READY COMPANY ENJOINED

New York, Jan. 16—Special telegram—Judge Hough, of the United States district court for the southern district of New York has just rendered an opinion directing an injunction restraining the American Ever Ready Co. from selling an imitation of the type L Klaxon warning signal made by the Lovell-McConnell Mfg. Co., of Newark, N. J.

This decision was rendered in one of the several suits brought by the Lovell-McConnell Mfg. Co., against the American Ever Ready Co. for infringement of seven of its patents and for unfair competition.

Judge Hough's decision is to the effect that the Ever Ready motor-driven horn is so much like the type L Klaxon that "it must be a very little distance indeed within which anyone can distinguish a Klaxon horn from an Ever Ready. Undoubtedly a critical examination shows divergence in position of fastener arms, variations in at least one curve when measured even with the eye and not very prominent exhibition of differing name plates, but what strikes the beholder even when his attention is directed to distinctive parts is not the difference but the general, unnecessary and apparently intended resemblance of the later to the earlier device, and this resemblance is nearly summed up by mentioning the right angled form of construction above alluded to. Does this sort of conduct need the restraining hand of equity? I am inclined to think it does."

The above case is interesting as illustrating that the United States courts can and sometimes will render prompt relief from unfair competition and imitation, the motion in this case having been filed December 28, 1911, heard January 5, 1912, and decided January 15, 1912.

Late News Concerning the Tradesmen

INDIANAPOLIS, IND., Jan. 13—A city ordinance forbidding the manufacture of explosives inside the city limits has caused the Prest-O-Lite Co. to decide to move its gas manufacturing and assembling plants to some other city. It is expected this action will be taken almost immediately, unless the ordinance in question is repealed.

Formerly the company's gas manufacturing plant was located inside the city, but the city council enacted an ordinance forbidding the manufacturing of explosives in Indianapolis. The company then moved its gas manufacturing plant to a point about 5 miles south of the city, while the assembling plant has been maintained in the city.

This arrangement has resulted in no little inconvenience and in much additional and expensive hauling. The company feels it can no longer bear this inconvenience and unnecessary expense. James A. Allison, secretary and treasurer of the company, states the concern has three cities under consideration, one of which may be selected as the future home of the plants.

Mr. Allison states that in the event the plants are moved, the main offices will remain in Indianapolis, as this is the home of Mr. Allison and also of Carl G. Fisher, president of the company. The board of trade has appointed a committee to see what may be done to retain the plants for the city.

BOOTH FLANDERS' SUCCESSOR?

Detroit, Mich., Jan. 15—A rumor reaches here from the New York show that Clarence H. Booth is slated to succeed Walter E. Flanders as general manager of the Studebaker Corporation's Detroit plants, but no information is available at headquarters at this time.

Another rumor is to the effect that both Mr. Flanders and Leroy Pelletier will withdraw from the Studebaker Corporation and confine their efforts to the Flanders Mfg. Co., which will, it is said, make a six-cylinder motor car.

MAIS COMPANY REORGANIZED

Indianapolis, Ind., Jan. 13—Stockholders and directors of the Mais Motor Truck Co. reorganized the company at a meeting held in this city last Wednesday. This action followed a recent increase of \$75,000 in the company's capitalization, and the concern now is on its feet again. The recent receivership suit brought against the company has been dismissed by mutual agreement of all parties concerned.

Under the reorganization, Will H. Brown continues as president and general manager, while creditors of the concern are given an active voice in the management by an executive board. J. D. Stimson, a wealthy hardwood lumber manufacturer of Huntingburg, has been elected vice-

Prest-O-Lite Decides to Move its Gas-Making Plant Away from Indianapolis—Mais Company Effects Reorganization—Universal-Flanders Merger Denied—Radford Cartercar Chief—Colby Consolidates—Rumors Concerning Flanders

president, and Alvin S. Lockard has been chosen secretary and treasurer. Albert Mais, who recently left the company, formerly was vice-president, while Hiram Moore as acting secretary and treasurer following the recent resignation of A. W. Markham.

The executive board consists of Mr. Stimson, Mr. Lockard, and H. G. Francis, the latter a furniture manufacturer of Rushville. The company has purchased from the Jenney Electric Co. the factory buildings the Mais company has occupied since its organization.

RADFORD CARTERCAR MANAGER

Pontiac, Mich., Jan. 16—Harry R. Radford, who for several years held the position of general sales manager for the Cartercar company at Pontiac, builders of the friction-driven Cartercar, now assumes the management of all Cartercar interests, except the manufacturing department. This change follows the recent resignation of R. A. Palmer as general manager of the Cartercar company. It has been decided to dispense with the position of general manager, which means that the departments of advertising, selling, credits of agents, and the directing of the seven Cartercar branches will all come under Mr. Radford's supervision.

NEW CANADIAN PLANT

Montreal, Jan. 13—The Brockville Atlas Motor Car Co., with a capital of \$200,000, has been established at Brockville, Ont. A new factory with all the latest facilities is in the course of construction. The company will build four different types of cars—touring car, two runabouts and a commercial car. All the parts will be built by the company with the exception of the engine and the body. The engine will be the output of the Atlas Engine Works of Indianapolis and the bodies constructed by the Canada Carriage Co. The new company starts with orders placed for 250 cars. T. J. Storney is the managing director.

COLBY COMPANY IN MERGER

Mason City, Ia., Jan. 15—The Colby Motor Co., with headquarters here, has consolidated with the National Co-operative Farm Machinery Co., the holding company being known as the Western Im-

plement and Motor Co., to be capitalized at \$10,000,000, with the central factory at Davenport, Ia. At the initial meeting of the new company in Davenport last week the following officers were elected:

President, S. N. Hoover, Chicago; vice-president, J. F. Hubert, Chicago; vice-president, W. M. Colby, Mason City; vice-president, J. W. Morris, Chicago; secretary, T. G. Stallsmith, Chicago; treasurer, J. E. Burmeister, Davenport; directors, S. N. Hoover, J. F. Hubert, W. M. Colby, J. A. Colby, J. E. Burmeister, Sheldon Peek, S. Methven, T. G. Stallsmith, W. M. Smith, J. M. Sutterfield.

A large factory will be erected this spring in Davenport and the Mason City plant eventually will be abandoned.

TRADE MERGER DENIED

New York, Jan. 15—Rumors to the effect that the Universal Motor Truck Co. recently purchased by H. W. Walton, of New York had been merged with the Flanders Mfg. Co., of Michigan, and that both these concerns might be taken over by the General Motors Co., met with denial at the hands of the concerns most interested. However, there is a project on foot to merge the Universal with the Flanders corporation, although the deal has not been consummated so far. It was stated at Mr. Walton's office that if the transaction went through it would not be until next week. It was specifically denied that there was anything in the report that a tentative organization to effect this merger had been perfected. The Universal company is capitalized at \$350,000 and the Flanders concern has an authorized issue of more than \$1,000,000.

KNIGHT'S AMERICAN PLANS

New York, Jan. 15—Announcement has been made that immediately upon the conclusion of the New York show Charles Y. Knight, inventor of the Knight motor, gave upon a 4 weeks' lecture tour of the west. From New York Mr. Knight goes direct to Cleveland and thence to Detroit, Chicago, Minneapolis, Denver, St. Louis, Indianapolis, Cincinnati and a number of other important middle west cities. After completing his western circuit Mr. Knight leaves for the east, delivering addresses in Buffalo, Albany, Boston, Worcester and several other New England cities. Mr. Knight is lecturing under the auspices of the F. B. Stearns Co. and will be accompanied by Henry H. Hower, of the Stearns company, who is in full charge of his tour. Mr. Knight's lectures are fully illustrated with stereopticon views, which he has had prepared especially for him in the Daimler Works at Coventry, England. Mr. Knight delivered this lecture before the Quaker City Motor Club of Philadelphia last Tuesday evening, where he was given a most hearty reception.

Commercial Car Sections



SECTION OF THE PALACE TRUCK EXHIBIT

Business World Has Chance to In- spect Trucks in Garden and Palace

NEW YORK, Jan. 15—Two commercial shows are at present holding forth in this city: One in the new Grand Central palace last Wednesday, it running concurrently with the pleasure car exhibit in that building under the management of Samuel A. Miles for the National Association of Automobile Manufacturers. The second one opened tonight in Madison Square garden, conducted by the Automobile Board of Trade and being the second half of the annual garden show of this

year, the touring car exhibit of last week being the first half. With these two opportunities of viewing the leading exponents of the motor truck industry in the east, this city is enjoying the best opportunity ever offered of studying these new leviathans of the transportation world.

Tonight's opening of the garden show was a most auspicious one. Every one of the exhibitors was in place. From Sunday at 9 o'clock in the morning the exhibitors and force of garden workmen had

toiled to get the exhibits in place, and it was not until after 6 o'clock this evening that the last car was safely stowed away, so that promptly at 8 o'clock this evening, when the bugle blast from the main entrance announced the opening hour, it proved the opening one in reality and the intruding crowds had an opportunity of seeing a completed and amazingly well arranged show. To Colonel Pope and his hard-working show committee should go one more vote of thanks.



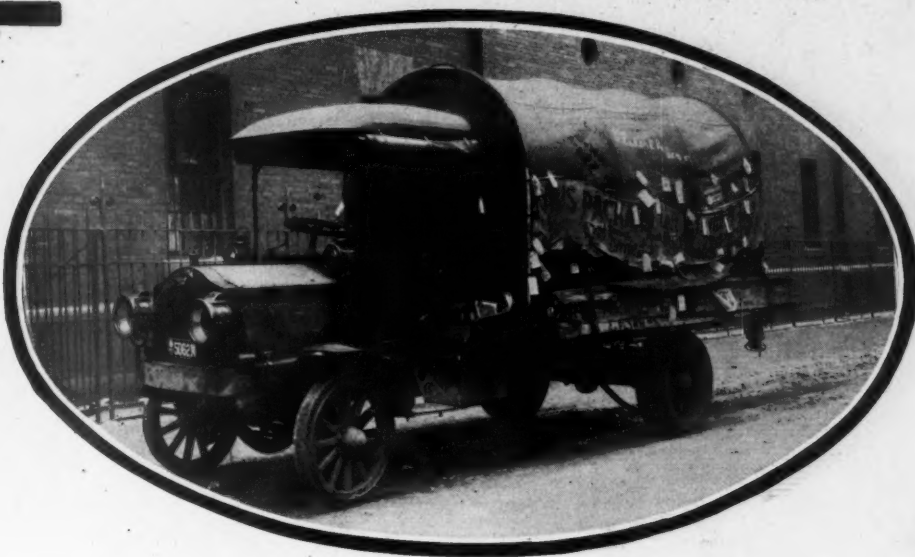
VIEW WHICH SHOWS WHITE COMPANY'S HUGE LUMBER TRUCK WITH TWO-WHEEL TRAILER

of the New York Shows



Automobile Board of Trade Has Auspicious Opening—Year's Progress

The garden show is different from that of a year ago. The appearance of the interior of the building is different; it is more business-like. The mighty gasoline trucks, the well-proportioned electrics and the little delivery wagons have been placed with as much care in the exhibit spaces as were the luxurious limousines of last week. The trucks occupy the main floor and two sides and one end of the first balcony. The remainder of the garden is devoted to accessories exclusively intended for trucks, delivery wagons and the busi-



PACKARD TRANSCONTINENTAL TRUCK AT THE GARDEN

ness wagon trade, making a strong display.

It is an inspiring sight to stand in the balcony and look down on these new masters of transportation, these revolutionizers of modern delivery fields. All industries are represented in the varying types of bodies and chassis designs. In the middle of the arena the White 5-ton truck with two-wheel trailer reaches from end to end of the space. It is loaded with sixteen immense wood sills, giving a hint to the fact that the big construction firm of metropolitan centers have during the last

year taken up the truck in earnest. These six-wheeled creations are the dreadnoughts of the field. Nearby is a huge cylindrical oil tank on the same make of chassis. It is a double-header, two separate tanks with separate feed pipes and discharge openings.

In an adjoining booth is the Packard prairie schooner, that 3-ton truck that made itself famous by its round trip to the Pacific coast. It is a picturesque vehicle, literally varnished with signatures, monograms and other inscriptions. Be-



GALLERIES IN THE GARDEN WHERE LIGHT DELIVERIES ARE SHOWN



LOOKING DOWN FROM BALCONY AT MAIN HALL EXHIBIT



HEWITT PROTECTED RADIATOR

side it is one of the latest 3-ton chassis, suitable for a body that measures over 15 feet in length, truly an example of what proportions the vehicles are attaining.

In the center oval is the huge Sampson coal truck with its pneumatic dumping body, a boy in uniform operating the hand control on the dash which regulates the air pressure for raising or lowering the huge steel box which carries the coal.

Also With Hopper Body

At the left corner on entering is an immense Alco coal truck, with hopper design of body for side delivery. Its irregular shaped body of steel resembles a giant kite. Beside it is another steel body with sliding doors on the side and swinging rear doors. It is entirely inclosed and is adapted for the ice trade.

At the left on entering the Knox's

varied exhibit of vehicles for business purposes and also fire department vehicles is arrayed. High on top of a standard chassis is the Martin three-wheel tractor, a vehicle specially designed to make it possible to convert a horse-drawn fire vehicle into a motor-propelled one, it being but necessary to take off the front axle and wheels of the horse-drawn vehicles and mounting the forward end of the vehicle on the fifth wheel of the tractor.

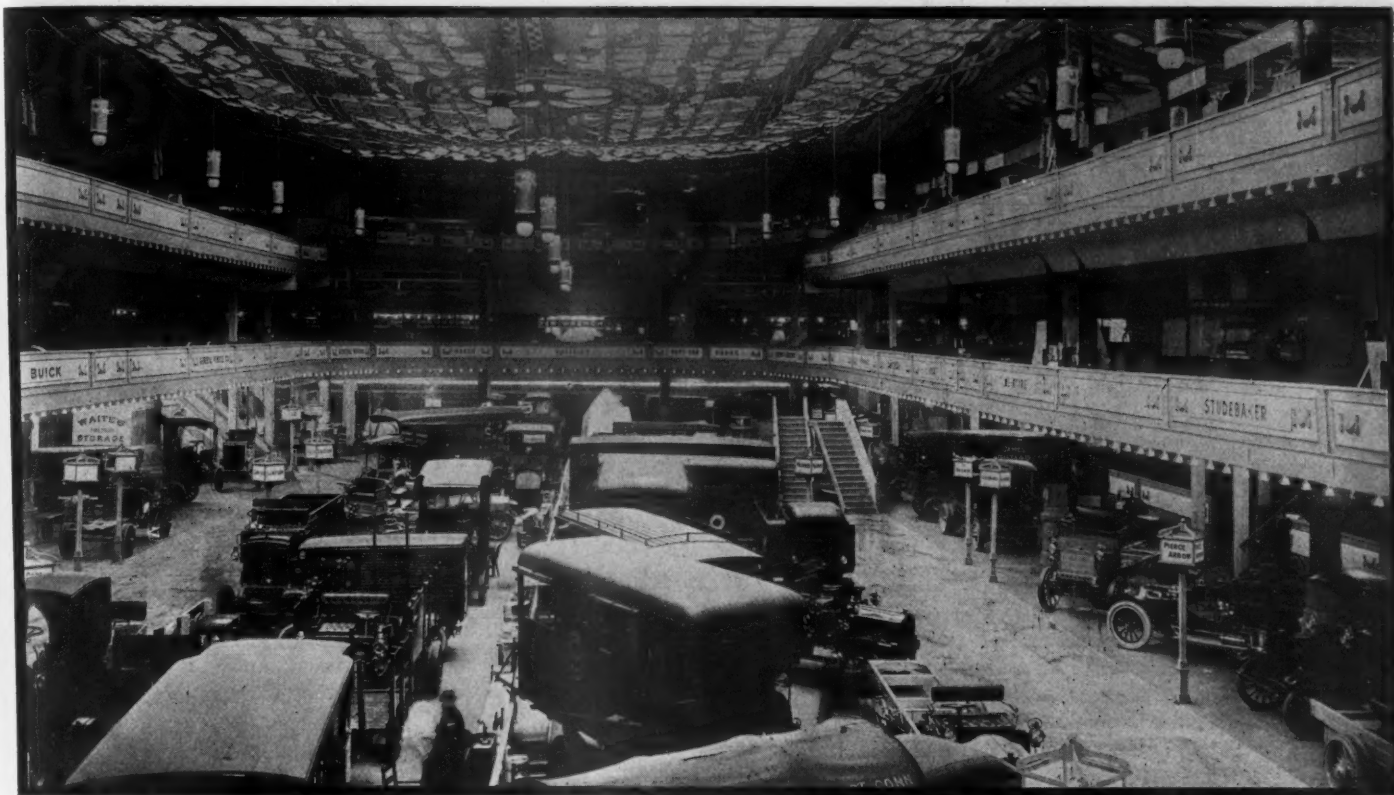
Mack's Water Wagon

In the Mack space is a novel skeleton design of army water wagon intended for

filtering water for an army on the march. The body part is of steel frame work with four giant filters supported in it and connected through the necessary piping to the power-driven water pump rotated back of the seat. With this wagon it is possible to take a supply from any stream and, passing it through the filters, give an adequate water supply with required purity for an entire force. This is but one of the many illustrations that the motor vehicle has afforded of its use in the army field. In one other exhibit space is a field service wagon specially ordered by the United



WHITE CHASSIS WHICH IS FITTED WITH DOUBLE TANK BODY



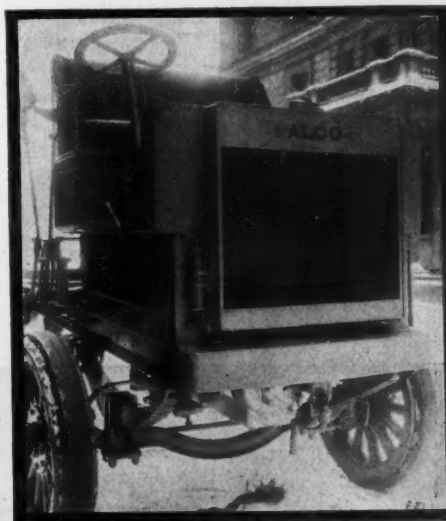
GARDEN DURING TRUCK SHOW, LOOKING TOWARD FOURTH AVENUE

States government for use in the army. The Speedwell space shows a dumping form of coal wagon for rear discharge, the body also having two side discharge openings on the right.

Two New Garford Types

In the Garford space are shown two new types of chassis in which gearsets have been used instead of friction sets. Both chassis are characterized by steel cabs for the drivers. In the other spaces on the main floor are many points of interest; in

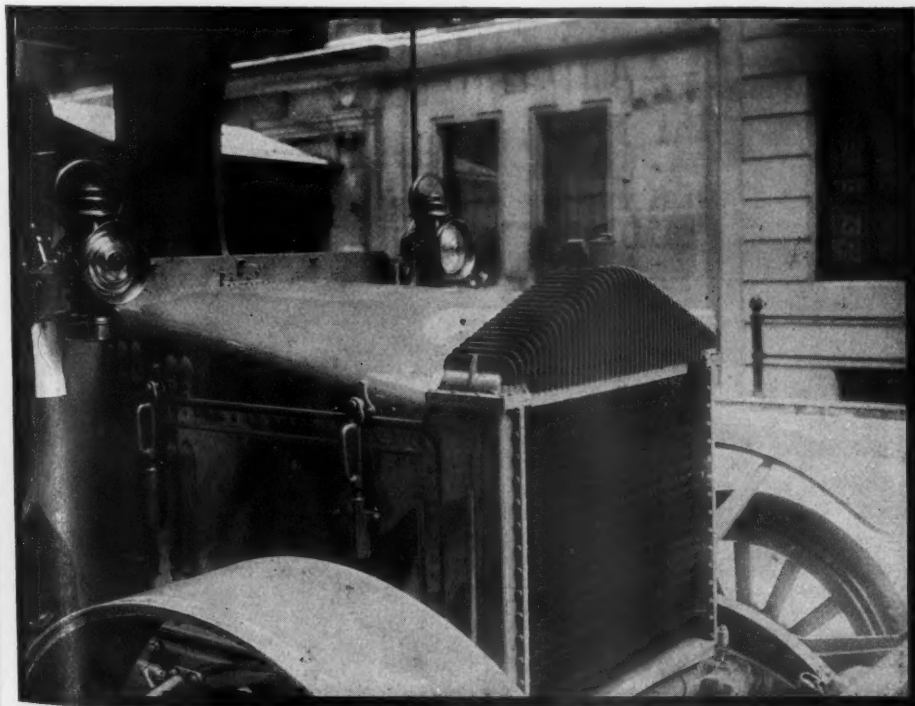
fact each has its talking point. The Pierce company shows a stake-type of brewery body, the stakes being square section steel tubes which are continuous with the cross sills. The horizontal tubes which reinforce the vertical ones are electrically welded in place. The design is particularly neat and its merit consists in the fact that brewers have experienced more or less difficulty through wood stakes rotting, which trouble is entirely eliminated by the use of steel.



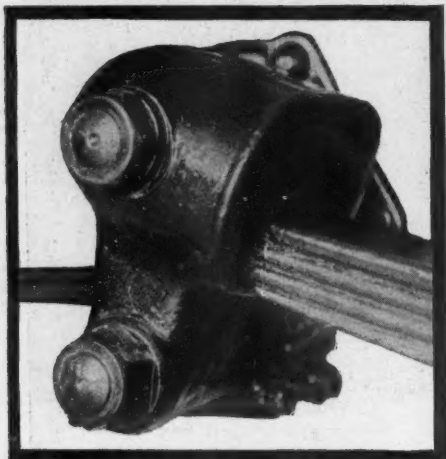
ALCO SPRING-SUPPORTED RADIATOR

While the cases above cited show the versatility of the truck as exemplified by the garden exhibits, nevertheless there are many less conspicuous exhibits which show the movement of the times. To explain: Locomobile shows its 5-ton truck chassis, the first time a truck has been on exhibition by this company. It is a four-cylinder type, 5 by 6 inches, with governor regulation of the crankshaft speed. The crankcase, the upper half made of manganese bronze, is carried on two cross tubular members. The driver's seat is mounted above the motor with wheel and levers on the right. The driving chains are inclosed.

On the opposite side of the arena is the new 5-ton Lozier, seen for the first time.



PIERCE-ARROW RADIATOR WITH COOLING FLANGES



NEWARK DUSTPROOF SPRING END

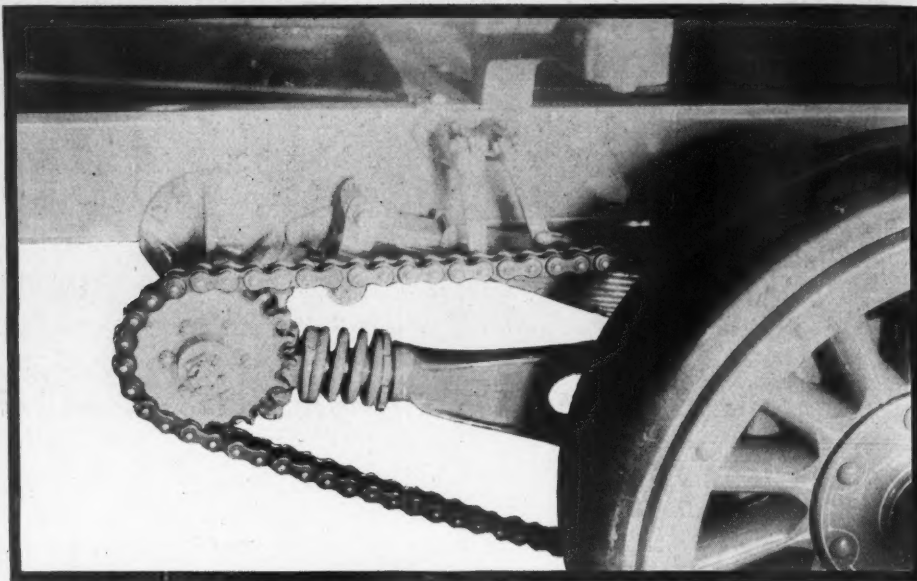
It uses right-hand control and has the motor mounted under the drivers' seat. The driving chains are inclosed.

In the first balcony the scene of versatility of design is continued. The Morgan company has an immense coal wagon with a hopper-shaped gravity floor, and the motor-operated delivery screw to unload the coal at the side.

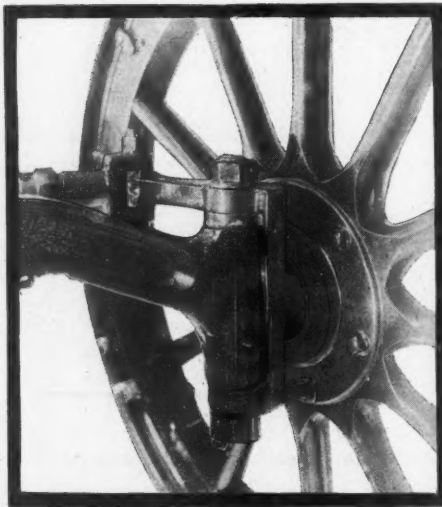
Sights in the Balcony

In a circuit of the balcony are seen many different makes and types. The Cartercar is shown with varied styles of delivery bodies. The small Brush runabout is seen. In McIntyre vehicles the inclosed delivery and other types are exhibited. Electrics in varied sizes are shown by the Lansden company, now a part of the General Motors, and also by Waverley and others.

This cursory review of the exhibitors must serve to exemplify the fact that the commercial vehicle is here. It is here in all its varied forms; it is here for all its



ATTERBURY SPRING RADIUS ROD



NEWARK STEERING KNUCKLE

multitude of users, and it is here to stay.

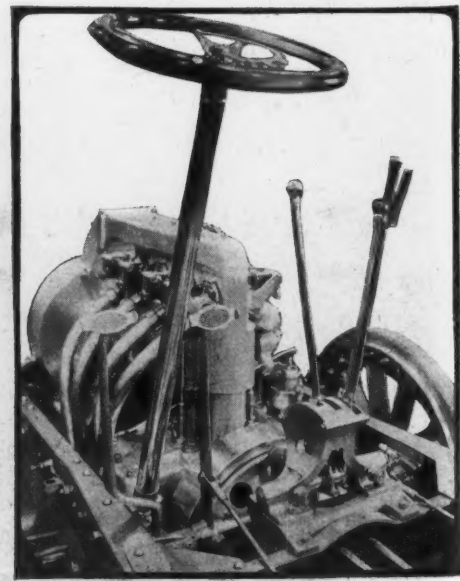
Comparing the general view of exhibits with that of a year ago, there is, as already stated, a pronounced difference. The spectator cannot but be impressed with the fact that the trucks look bigger and in many cases they are bigger. The 5-ton truck is becoming more of a common sight, and besides it there is the 6-ton, the 7-ton, the 7.5-ton and the 10-ton.

Steel-Bodied Trucks

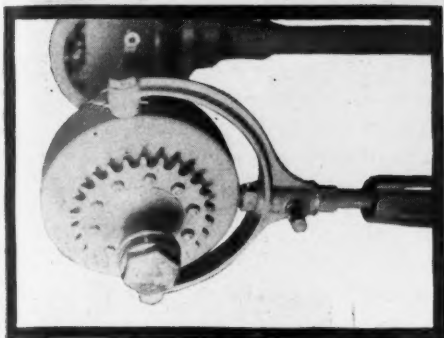
There are more steel bodies shown than ever before. For coal business the steel body is imperative. It is as business-looking a proposition as a steel Pullman coach; it is practically as well made. There is more versatility of design shown in coal bodies than there was a year ago. The experience of a year in listening to the demands of the coal people, and studying their requirements have taught the body-builder his many lessons. The dumping body is paramount. The front end is raised by either hand or motor power. Pierce has a hand power



WHITE RADIATOR, MOUNTED ON SPRINGS, SHOWING HOW IT IS PROTECTED FROM INJURY



LEFT-HAND DRIVE USED ON THE KELLY TRUCK

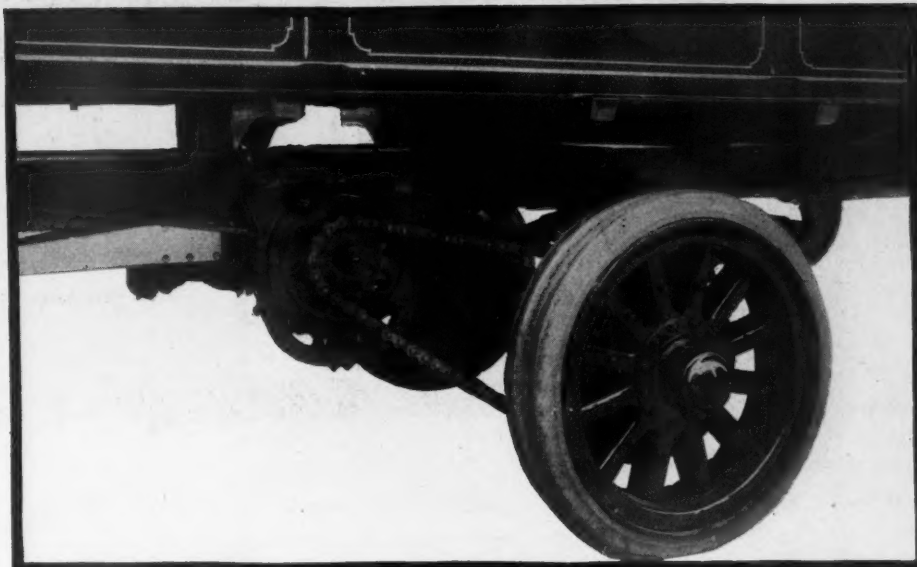


DECATUR JACKSHAFT BRAKE

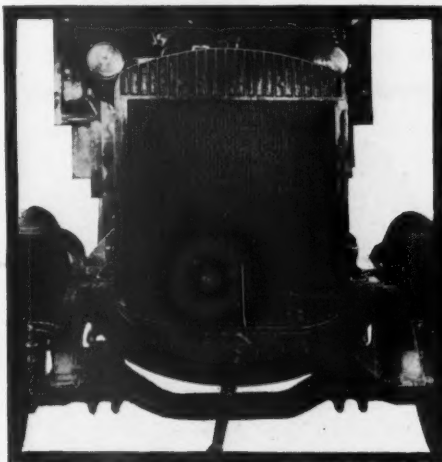
lift with endless screw type; the Sampson uses the pneumatic; Mack has a double-chain lift; Speedwell uses a rack and pinion; Gramm in the palace employs windlass and chain, and others have their individual designs. Also prefers a gravity side-delivery type; Morgan uses the endless screw side-discharge design, and some employ the elevating body with side discharge.

Study of Dumping Bodies

It must not be taken for granted that only those concerns exhibiting dumping bodies are producing them. In last week's Motor Age many different designs of rear and side discharge were illustrated and described. There are many others whose designs have not as yet been made public through these pages. The prolific variety of design and the great numbers of coal bodies tell the story of the conquest of this field by the truck. The coal merchant has been a conservative buyer. He has not gone into it in a more or less wholesale plan, like the brewer, or the big department store. He has been conservative. He has bought one truck at a time. He has experimented with different types of bodies to suit his varied customers. His work has been one calling for mani-



PACKARD JACKSHAFT BRAKE



RADIATOR ON COMMER TRUCK. FLANGED FOR COOLING. SWIVEL-SUPPORTED TO PREVENT STRAIN FROM WARPING OF FRAME

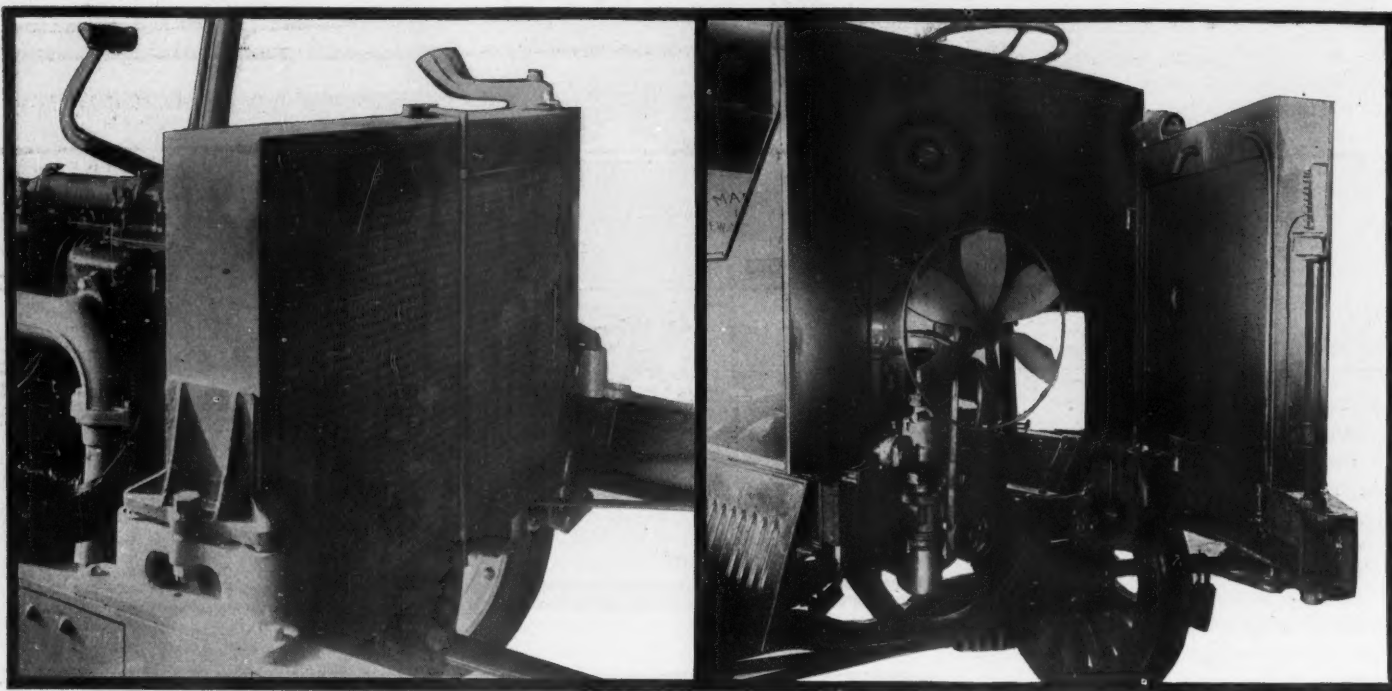
fold observation. He delivers coal to thousands of different customers. In one case a side-discharge body is best; in another the rear dump is preferable; in a third the elevating body design is necessary; and in the fourth he may have to use horse vehicles. Many a coal dealer would have today a complete outfit of motor wagons were there satisfactory unloading facilities. He knows that in some cases unloading is so slow that horse vehicles are desirable because it costs more to keep a truck 40 minutes unloading than it does a horse wagon for the same period.

But the motor fever has hit the coal man. It is a happy coincidence that zero weather and slippery streets have preceded the opening of this show for a week at least. These days have been sore trials on horse transportation. Many horses have had to be killed because of broken limbs, due to slipping on the icy pavements; Sunday deliveries have been neces-



GARFORD PROTECTED RADIATOR, FLUSH OIL LAMPS, AND ACCESSIBLE STEERING LINK, WHICH ARE FEATURES

SAMPSON CONTROL FOUND ON THE AIR DUMP BODY



RADIATOR PLACED BACK OF MOTOR AND UNDER SEAT

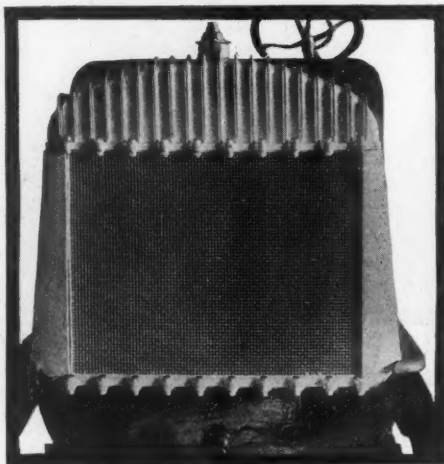
HINGED RADIATOR AND REMOVABLE MOTOR ON KNICKERBOCKER

sary because of delayed work due to horses not being capable of working to capacity. All this helps the motor truck business in the coal field, and one coal merchant owning more than 500 horses and upwards of a score of trucks has made the statement that he is going to get rid of the horses as rapidly as possible. It is only a question of time until his entire horse equipment will have given way to multitudes of different kinds of motor trucks.

In the Brewery Field

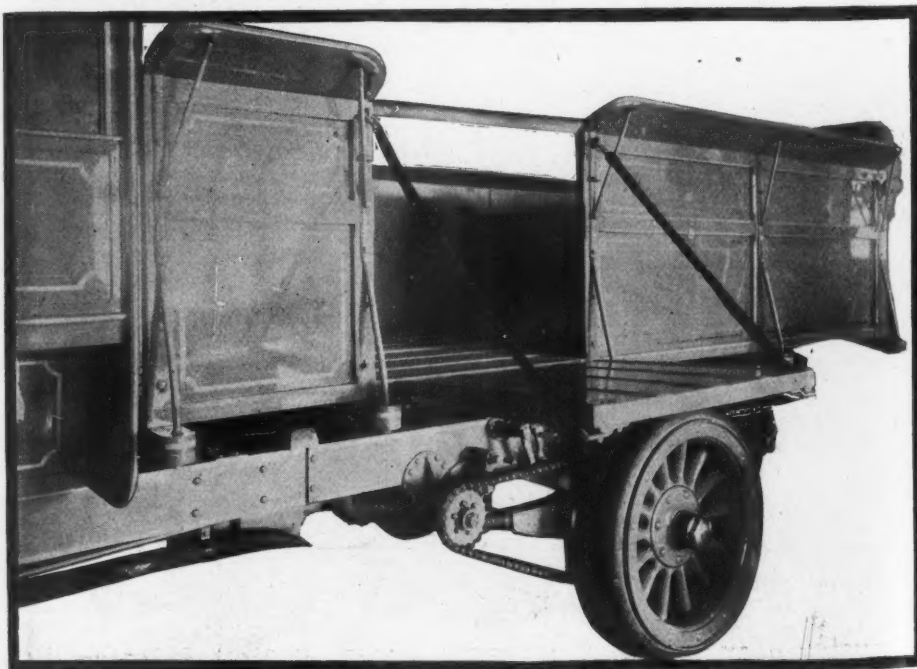
The brewery field continues to be a big consumer of trucks. This is well evidenced by the many different types of vehicles on exhibition. Some are piled high with empty barrels and others with cases for bottled goods. There scarcely is a maker who has not catered to this trade. These bodies offer little versatility in design excepting in steel construction already spoken of. For barrel trade the stake-type body with flaring sides is the popular one. It has the hinged rear gate and the central removable gate at each side. The inclosed sheet steel body with sliding doors at the side is used for the case trade.

A line of business which has been developed during the past year is the oil and gasoline trade. It is general knowledge that throughout the country the horse-drawn oil wagon is seen almost as widely as the rural free delivery man. There is scarcely any other field in which the truck could show to greater efficiency than in this. It is essentially a field of long distances, the only drawback to it being the bad roads of many territories. One concern stated that it has within the last 9 months sold not fewer than forty-five tank and other types of wagons for the oil and gasoline trade. This surely is a field to be developed and one in which the conquest of the truck should be complete.



NEWARK RADIATOR

Many makers of trucks are developing the contractor and road-building trade. The city contractor who erects steel buildings and has large excavation work calls for quick and reliable transportation. The truck offers this. The draws or distances are generally of good length, making the truck particularly economical. In this field the use of the dumping body and loading by steam shovel makes it possible to operate a truck at its highest point of efficiency. For transportation of steel girders the two-wheel trailer has come into use. White has several of these in operation in New York and Garford and others have orders for similar vehicles. The development of this line should prove a fruitful selling field. Road contractors



ATTERBURY SIDE DOOR BODY

also are investigating the truck, as are contractors of asphalt pavement. One exhibitor recently told of having signed five orders for dumping bodies to carry hot asphalt for city pavement work. The transportation of crushed stone, gravel and other street and road-building materials makes this field a wide one.

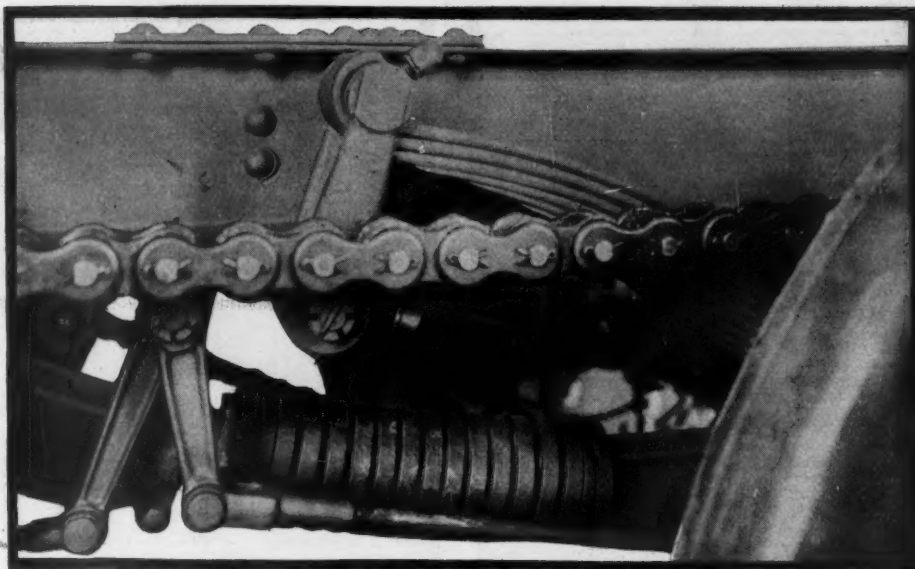
During the last year there have been vast inroads made into the storage-van interests. The huge horse-drawn van for moving furniture in cities has not become motorized. It is larger in size, and is one of the bulkiest types of vehicles at the show. The Reliance company shows a very large vehicle of this type.

Chassis for Rural Buses

At the Knox and Atterbury booths it was learned that much activity was shown during the past year in truck chassis employed for rural buses. In fact, special bodies are used for passenger-carrying work on city streets where trolleys are not permitted. New Haven, Conn., and Watertown, N. Y., are examples of where such systems are in use. Regular lines of buses have been in service on Fifth avenue and Riverside drive, New York, for many years. Systems recently have been established in the loop district of Chicago. Several other cities are talking of installing similar systems.

The use of the passenger bus is not being confined to the larger cities. In many of the smaller towns the motor bus is a common carrier between the railway depot and the leading hotels. The old rickety horse-drawn omnibus is being eliminated and the smart sanitary motor bus taking its place.

The market gardener has taken up the motor bus with considerable activity during the past year. It is now possible for the gardener with farms 20 miles from the city to get his produce to the market by 6 or 7 o'clock in the morning without



VELIE SPRING END IN RADIUS ROD

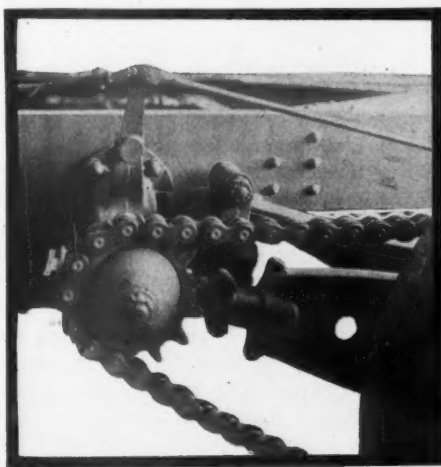
having to leave his home before 4 a. m. With horse transportation it has been necessary to leave the previous evening

and travel half of the night. This has been disastrous to the produce. With a rapid motor vehicle fruits can be transported and delivered within a few hours after taken from the orchard or garden. Michigan is perhaps making as much progress as any state in this field.

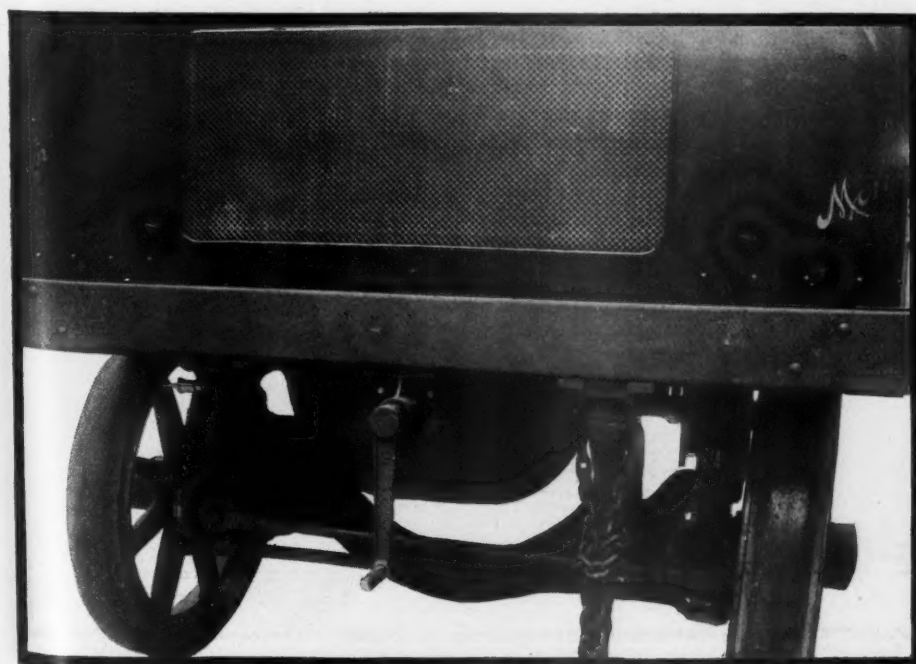
The fact that New York city took up the use of motor-propelled fire apparatus with so much vigor has proven an enormous advertisement for the entire country. There scarcely is a truck builder who has not dabbled more or less in the fire department field. It is an easy field for which to build. It is but necessary to take the standard chassis and fit a body with equipment, the specifications for which generally are given by the municipality making the purchase. The truck maker has nothing to do with the chemical equipment, the hose equipment, etc. This is all secured from concerns making a specialty of such apparatus. In the case of combined pumping engines, the problem is a big one. The Knox company has made much progress in this line and has been improving its type exhibited a year ago, which is to be delivered to the city of New York.

All Kinds of Businesses Interested

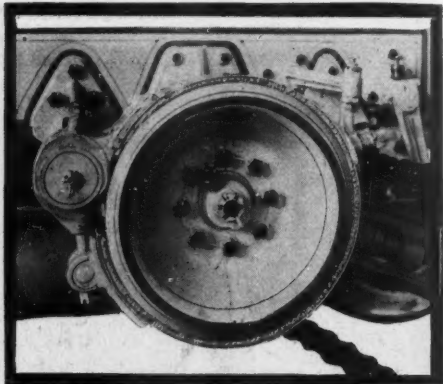
While the big truck builder has been reaping his harvest from the brewer, the coal merchant, the contractor, the oil man, the ice trade, etc., the builder of small vehicles, those of 1-ton or under capacity, has been looking after his trade. Their buyers are found in the ranks of the retail grocer, the laundryman, the small dry-goods house, the florist, the milliner, and also in the sub-distributing field of big department stores. This list could be augmented, including the butcher, baker, hatter and many others. There is at the present show a great many newcomers in this field. These are more evident at the Grand Central palace than at the garden, some of the new names at the palace being Koehler, Modern, Sanford, Veerac, Rowe, Sullivan, Poss, Dart, Commerce, Best and



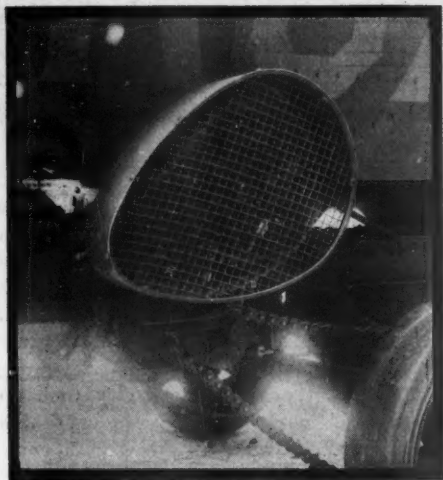
ARIES HINGED SPRING SHACKLE



MORGAN FRONT CONSTRUCTION SHOWING FLAT RADIATOR



DAYTON BRAKE ADJUSTMENT



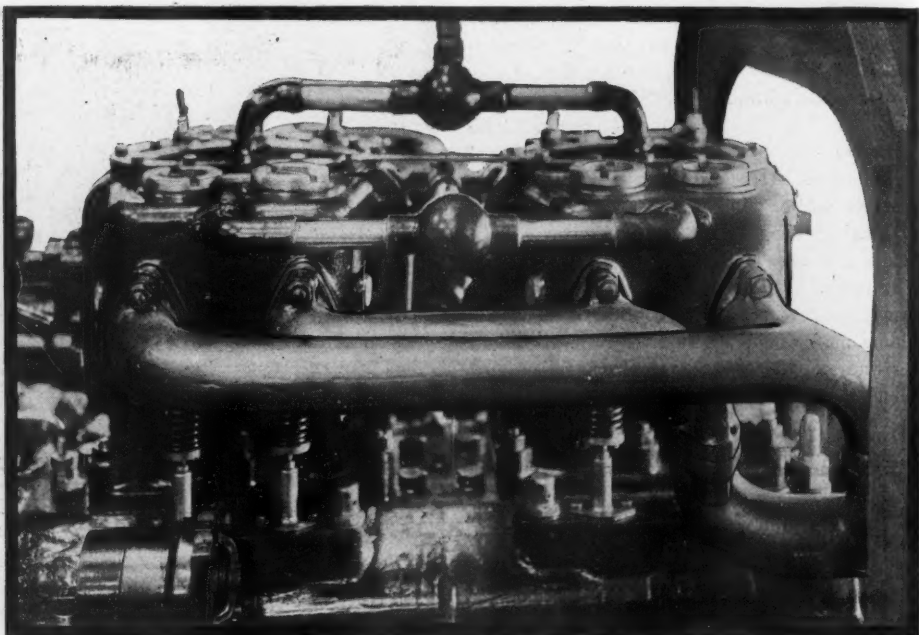
MORGAN CHAIN GUARD



GOODYEAR BLOCK TIRE

others. To these could be added a long list of names of concerns that have been on the market for several years, such as McIntyre, Carter, Brush, Chase, etc.

Having given this analysis of the field which has developed so amazingly in the past year, and having cited sufficient examples to prove how the maker has appreciated this development and taken advantage of it, it is now in place to briefly recite what have been the more apparent changes in the different models during the year. In last week's Motor Age there appeared a general summary of the different trucks on the market, with their complete



ARIES DOUBLE EXHAUST MANIFOLD

specifications. It is not purposed to repeat these, but to generalize on the industry.

In the early days of the pleasure car industry each succeeding models were larger—longer on wheelbase, more powerful motors, larger bodies, larger tires, etc. With the truck, during the last year, there has not been much of this larger idea. Many concerns show the same capacity vehicles of a year ago, and it is remarkable how few changes have been made by several of the leaders. White has brought out a 5-ton truck, during the past summer, so that its line is now a comprehensive one up to this limit. Packard builds 2 and 3-ton machines. The Pierce company continues with its 5-ton model. Grabowsky has brought out a 5-ton four-cylinder design which marks its entry into this field. The Hewitt showed

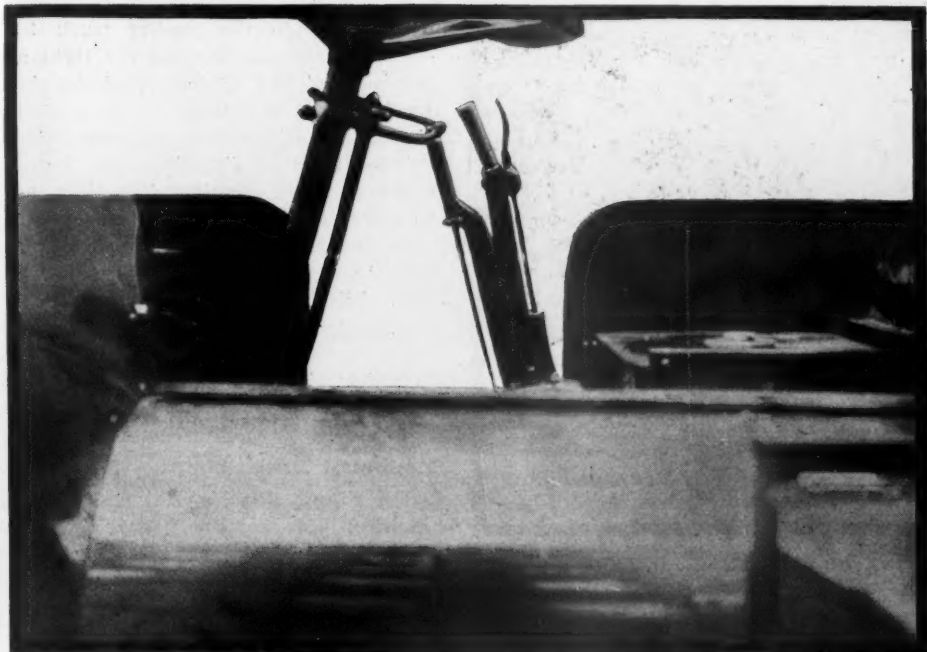
a 10-ton truck last year and its line for the present season includes the following: 1, 1.5, 2, 2.5, 3.5, 4.5, 5.5, 7 and 10. This is a good example of covering the entire delivery wagon field, as well as the heavy truck field. With a line of vehicles with such carrying capacity it should be possible to install any necessary truck equipment.

Location of Driver's Seat

The much-mooted question as to the best location for the driver's seat still is an unsettled one. Although it would seem that the majority of new comers in the field are casting in their lot with that class in which the seat is carried above the motor, the other class being in which the seat is back of the motor, the driver occupying a similar position to that in a touring car. Some of those concerns in both shows placing the seat over the motor



PACKARD TRAILER FOR DEMOUNTABLE BODIES



MORGAN WITH SEATS ON BOTH SIDES OF MOTOR

are: Alco, Commer, Garford, Pope-Hartford, Speedwell, Locomobile, Gramm, Packers, Universal, Durable-Dayton, Lozier, Lauth-Juergens, Eclipse, Decatur, Victor and Lippard-Stewart. The Autocar, which builds nothing but two-cylinder motors, with the motor mounted transversely in front, carries the seat over the motor and hinges the seat so that by turning a crank it is raised entirely out of position, leaving the motor very accessible. The Mack company's trucks, with the body 12 feet or over in length, mounts the seat above the motor. When the body length is under 12 feet the driver sits in rear of the motor. The Knox company places the driver over the motor on all trucks of more than 2-ton capacity. On the new four-cylinder Grabowsky the seat is above the motor, provision being made to slide the motor out in front by swinging the cross member

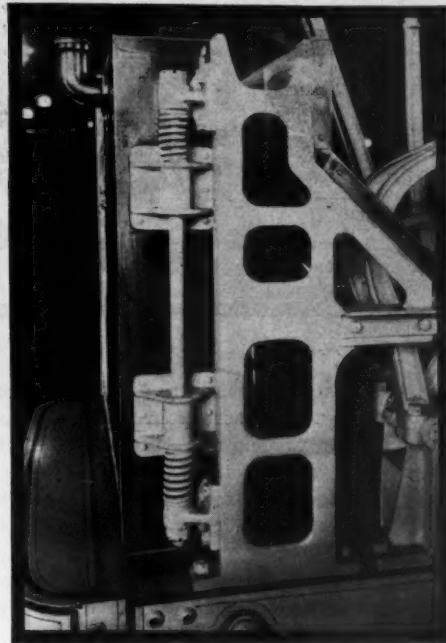
of the frame out of position. A similar construction is used on the Knickerbocker shown at the palace. There are many two-cylinder type of vehicles, or four-cylinder delivery wagons in which the seat is over the motor, among these being Dart, Rowe, Sullivan, Veerac and Sanford.

Types of Driving Seats

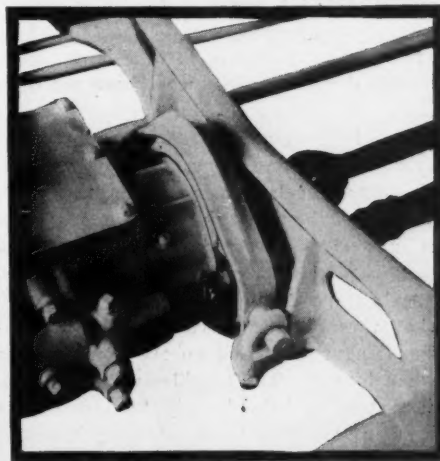
In contrast with those who place the motor under the seat are those who mount the driver in rear of the dash. The leading exponents of this are Packard, White, Saurer, Atterbury, Kelly, Pierce, Peerless, Stearns, Federal, Walter, Cass, Velie, Modern, Newark, Chase, Schacht, Commerce, Detroit, Poss and Rapid in its two-cylinder types. As already intimated, Mack uses this design with bodies under 12 feet in length and Knox in its chassis of less than 2-ton capacity.

Each side has its own arguments for

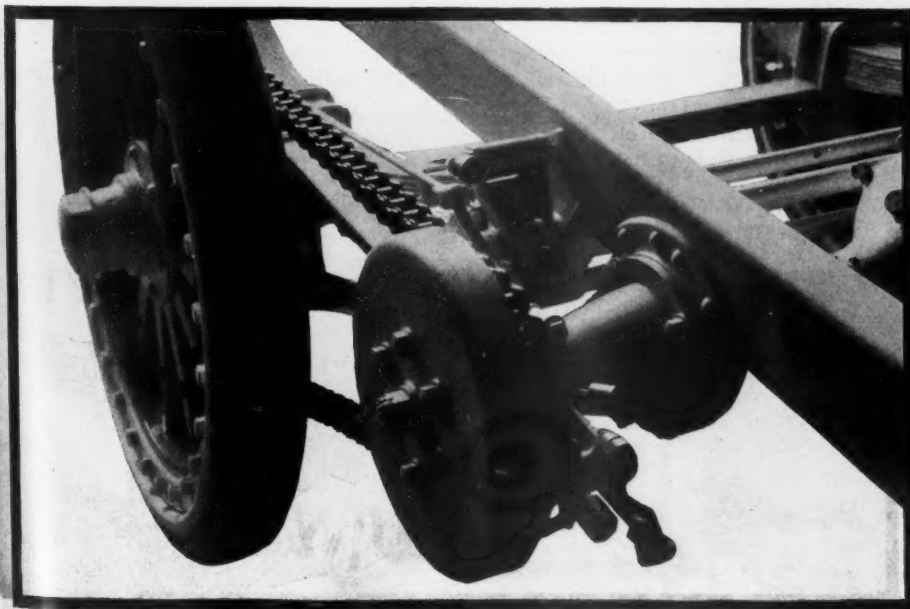
its particular design. Where the motor is placed in touring car fashion under the hood, practically all of the load must be carried on the rear wheels. This makes it possible to fit tires with capacities for this load, generally the largest size dual being used. It also insures good traction;



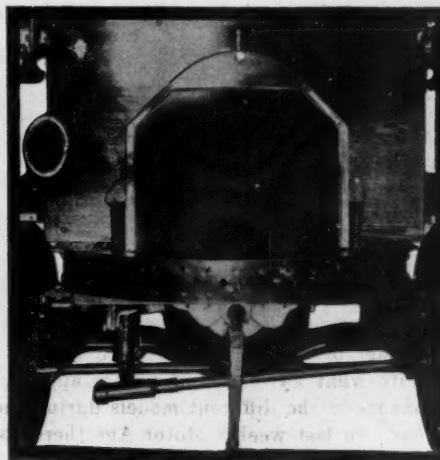
DAYTON RADIATOR SUPPORT



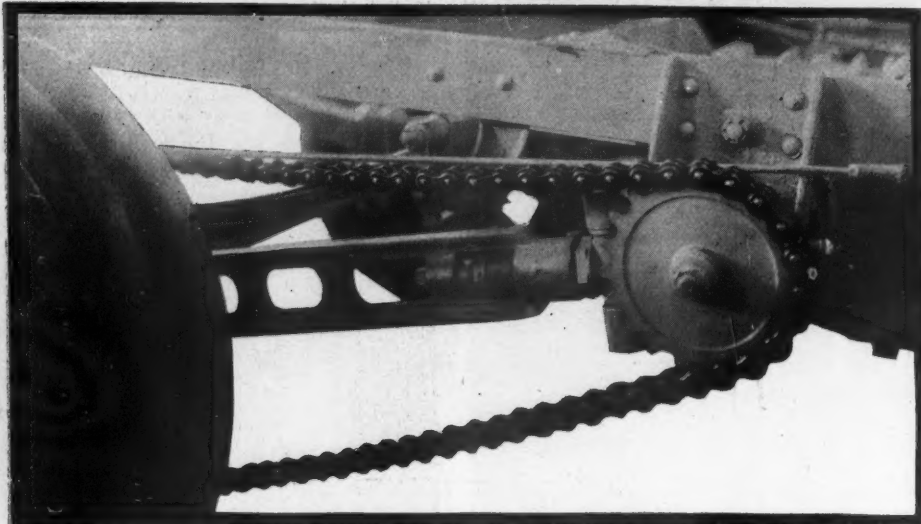
FEDERAL TRUNNION GEARBOX SUPPORT



FEDERAL INTERNAL JACKSHAFT BRAKE



VICTOR RADIATOR BUMPER



ECLIPSE RADIUS ROD ADJUSTMENT

and it makes it possible to use fairly light springs in front, thereby giving good suspension for the motor. It takes a great deal of strain off the steering knuckles, and makes steering as easy with the truck loaded as unloaded. It does give a great deal of overhang to the body, back of the rear axle, and gives a longer construction, which hinders maneuvering in cramped places.

Seat Under the Motor

The exponent of the seat under the motor has his arguments. They tell of more loading space, with shorter wheelbase. It is possible with a 5-ton truck of this design to use a wheelbase not more than 140 inches. When empty this will give a load weight of 3,600 pounds on the front wheels, and approximately 4,500 on the rear wheels, depending on the truck weight. When carrying a 5-ton load, the weight on the front wheels will be 5,300 pounds, and that on the rear wheels approximately 14,000 pounds. It is seen that there is not more than 1,500 additional pounds carried on the front wheels when loaded. The troubles with the difficult steering have largely been overcome by using bearings in the steering knuckles to carry the load.

Explanations of many types are received when the matter of mounting the steering wheel on the left or right-hand side is

taken up. Judging from the vehicles seen in the garden and also in the Grand Central palace, right-hand control has everything its own way. In a count of forty-seven exhibitors thirty-two were found to fit right-hand control and but fifteen left-hand. Some fit both. One maker is using left-hand control on new models and right-hand on the old. On the Kelly truck this scheme is followed, especially where bodies are designed to carry long pipes in which case the body is extended along the right side of the motor, practically to the front. Some of the exponents of right-hand control are: Alco, Peerless, Autocar, Garford, Packard, Pierce, Mack, Saurer, Reliance, Grabowsky, Commer, Eclipse, Decatur, Packers, Atterbury, Victor, Universal, Walter, Velie, Aries, Gramm, Lauth-Juergens, Lozier and Locomobile. White fits the left-hand steering wheel on its 5-ton model, and leaves right-hand control on the others. The Newark worm-driven truck is made with left-hand control, but right-hand is used on many of its other models.

Among the names of trucks placing the steering column on the left side and mounting the change-speed and emergency brake levers either in the center or the left are: Pope-Hartford, Durable-Dayton, Speedwell, Stearns, Schacht, Federal, Lip-pard-Stewart and Detroit, Best, Sullivan

and Veerac in the smaller truck field.

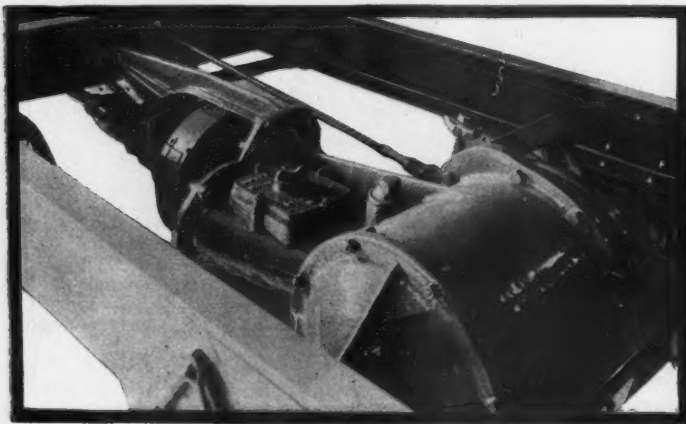
There are many reasons for right and left-hand control. Devotees of the right-hand system say that so many of the right-hand drivers are graduated horse drivers that it is difficult to get them accustomed to the left side. They have been so accustomed to sitting on the right that some buyers would sooner not buy trucks than have to put the driver on the left side. With the driver on the right it is possible to pull up to the curb better than when on the left. The final outcome as to which will be ultimate is not yet certain, but the great tendency is towards the right side.

Mechanical Design Status

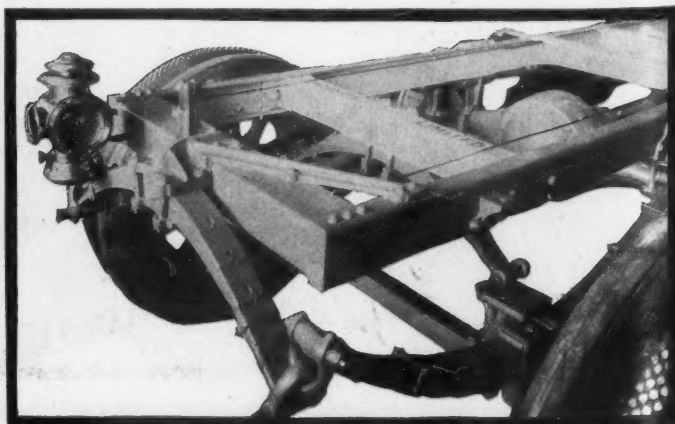
The status of mechanical design as established last year has been altered but little since then. The Pierce continues the use of its worm-driven rear axle. In the palace show a new model of the Newark has been brought out using this form of drive, and the light Franklin truck, not seen in the show, is listed with this type of axle. All of the large trucks, with the exception of the Pierce, use chain drive. The inclosing of the chain is gaining slightly. Sampson trucks used the inclosed chain a year ago. The new Lozier is shown with chain cases fitted, and several other makers state that they will fit cases if necessary.

Supporting the motor on a rapidly demountable framework is increasing in popularity, although not at the rate that was anticipated a year ago. Grabowsky uses the sliding scheme already mentioned and on the new Knickerbocker it is shown. The Lozier company mounts motor and gearbox on a sub-frame which is hinged to a cross member of the frame in rear and in front is carried on a semi-elliptic spring on each side, this spring taking its support in the main frame side member. The Stearns on its truck which was brought out a year ago and shown in much the same form this year, uses this method of spring support. It is designed especially to free the motor from vibration.

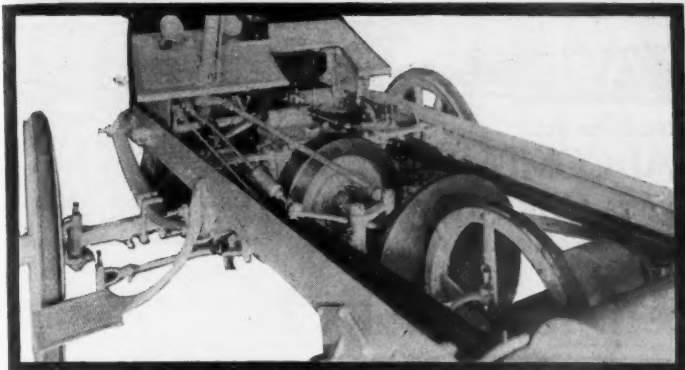
The spring suspension problem of the heavy truck is as big as ever. It is not difficult to fit springs that will carry a 5-ton load, but these springs do not give



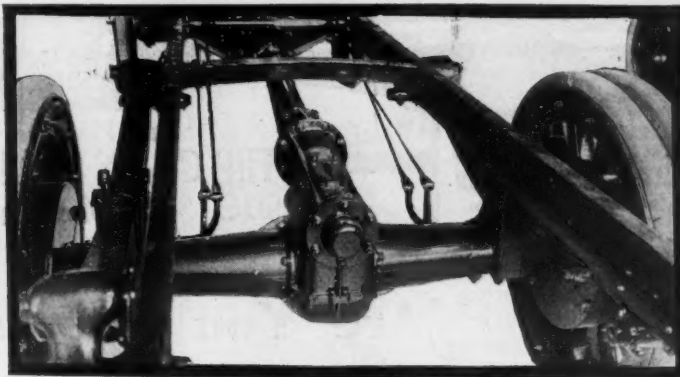
UNIVERSAL GEARBOX SUPPORT



DECATUR REAR SPRING SCHEME



DURANT FRICTION-DRIVE SYSTEM



NEWARK WITH WORM-DRIVEN AXLE

a flexible suspension with an empty truck. This has led to a few concerns putting in a spring sufficient to carry the empty body, so that when the load is added the weight is taken on the extra springs.

The new four-cylinder Grabowsky is an example of this. The rear of the body is carried on a transverse platform, but when the load is applied frame blocks press upon the ends of the side springs making them carry the load. On the Sampson truck coil springs are used to take the standard load of the body, and these being in-operative after a certain amount of load is put on.

Springing of Trucks

The use of the platform springs in the rear is as popular as ever. On 5 and 7-ton trucks several examples of heavy semi-elliptic springs are seen, the Hewitt being a leader. This spring is carried beneath the axle. There is a tendency to design cup-shaped coverings to protect the end bolts of the springs and also the shackles. The worm-driven Newark truck is a good example of this.

Friction drive has a considerable following, particularly in the lighter class vehicles. The Cartecar uses it exclusively, and it is found on such light vehicles as Commerce, Best and Poss. The Garford company is using it on special order work.

Air-cooled motors have approximately the same following as a year ago. The Kelly truck, the successor of the Frayer-Miller, encloses the cylinders with an air-

jacket, and has a blower for forcing an air current through the jackets. Concerns using the standard flange cylinder are Chase, Koehler, Sanford and Veerac. The two-cycle truck has not progressed much. Reliance, a leading exponent of this type of motor, is using the four-cycle design entirely. Two-cycle motors are used by the Chase and Sandford, both of which use three-cylinder designs.

DYER SUITS REACHING CRISIS

New York, Jan. 17—Special telegram—The so-called Dyer suits are approaching a crisis in the United States district court of the southern district of New York. If sustained, the Dyer patents will affect every car making concern in the United States. Suits under these patents were entered last summer against the Maxwell, Winton and Locomobile and last fall a similar suit was commenced against the Commercial Motor Truck Co., maker of the Saurer truck, which recently has been merged with the Mack under the name of International Motor Co.

Various delays have resulted in filing answers in all these cases and the most recent stipulation provides for the completion of the answers next Monday. Another stay is likely and final action will be taken early in March.

The complainants allege infringement of two patents covering a type of motor car and a transmission mechanism. The courts are asked to declare the patents valid and infringed by the defendants and to pro-

hibit them from making, selling or using cars equipped with the patented devices and for damages resulting to the owner of the patents by reason of such alleged infringement. The patents are numbered respectively 885, 986 and 921, 963.

The first named is a patent covering a type of transmission gear and was granted to Leonard H. Dyer, April 28, 1908. The ownership of the patent was transferred to the Enterprise Automobile Co., of Hoboken, N. J., and similar action was taken with regard to the other patent granted May 18, 1909, covering a motor-driven vehicle.

This patent was first applied for February 3, 1900, and application was renewed September 22, 1908.

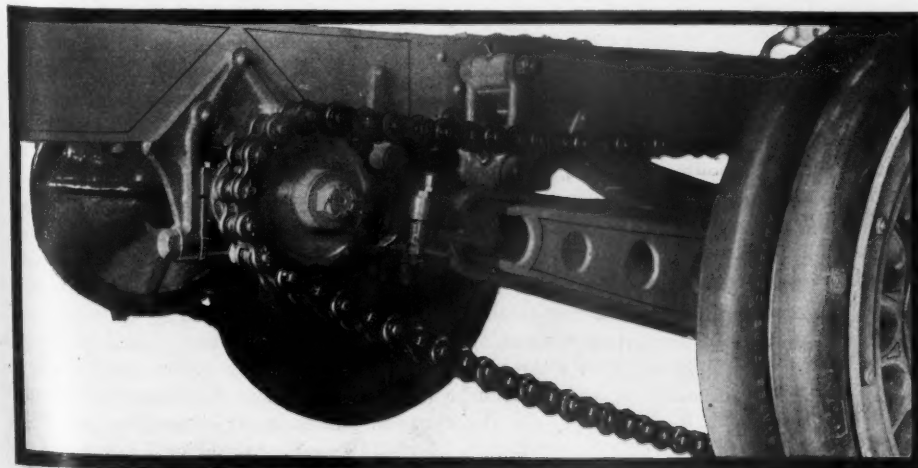
BENEFIT FOR RACE DRIVERS

Los Angeles, Cal., Jan. 14—Special telegram—The benefit carnival at Ascot Park today for Harris Hanshue and Charles Illingsworth netted \$3,000. Illingsworth lost a hand returning from the Phoenix race and Hanshue was severely injured when he went through the fence at Phoenix. There were no speed contests today. Teddy Tetzlaff gave an exhibition in the grand prize Fiat and Harvey Herrick drove the world's record National.

The 5-mile race for an average of 35 miles an hour was won by Caleb Bragg in a Fiat, with Tetzlaff second. The 45-mile average for 5 miles was won by Tetzlaff with Herrick second. Tetzlaff beat Dingley and Herrick in a tire-changing contest and Herrick won a barrel-dodging race. A tug-of-war between the Reliance and Kelly trucks was won by the Reliance. The combination motor and sprint race was a tie between Louis and Joe Nikrent.

ATLANTA CRAMPED FOR SPACE

Atlanta, Ga., Jan. 12—The applications for space in the Atlanta show overran the original estimate of 18,700 square feet by so large a margin that the show committee has decided to sell the space under the seats and by so doing has increased the available area to 22,700 square feet, all of which has been engaged. It has been decided that it is too late to build a flooring over the seats and exhibitors who have not already secured space cannot be accommodated.



UNIVERSAL JACKSHAFT SUPPORT AND RADIUS ROD



MOTOR AGE
Published Weekly by
THE CLASS JOURNAL COMPANY
910 SOUTH MICHIGAN AVENUE CHICAGO

NEW YORK OFFICE
239 West 39th Street

SUBSCRIPTION RATES
United States and Mexico
\$3.00 per Year
Other Countries including
Canada \$5.00

Entered as Second-Class Matter September 19, 1892, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879

Are You Interested in Trucks?

"ARE you interested in trucks?" This is the nonsensical question that a prospective buyer was asked at four different exhibits of commercial cars in the present Grand Central palace exhibition. What question could contain more evidence of real ignorance of how to sell a truck? Did that salesman for a moment even imagine that the prospective buyer had come to the show for a bit of exercise and that he had stopped and was examining the parts of a chassis for the mere sake of examination? The question of the salesman demonstrated conclusively that the real science of salesmanship is an unknown quantity with many who are today posing under the name of salesmen.

WHAT is the effect on the buyer of a foolish question such as the above? In the first place, it breeds the thought that the company is a mushroom type and that it is launching its products on the market for the first time. The question savors from start to finish with ignorance, and while the prospect may not consciously analyze it in this way, he nevertheless does so unconsciously and simultaneously there is engendered in him more or less of a spirit of disrespect for the motor vehicle in question. If the motor vehicle in question is a well-known make, one of whose reputation the buyer is fully aware, the inexcusable question of the salesman might be overlooked, due solely to the preponderating reputation of the truck. If, on the other hand, the truck is an unknown factor, its reputation is immediately estimated in proportion to the ignorance displayed in the salesman.

BUT the salesman who asks "Are you interested in this truck" is but one type; there are many others. The salesman who is entirely ignorant of mechanical construction also is a detriment to the vehicle he is trying to sell. Two prospective buyers in a circuit of the recent shows did not find salesmen competent of answering simple questions on the trucks in ten different exhibits. The questions were not hyper-technical. They all applied to the possibility of maintenance and operation. A favorite one was, "How many miles do you guarantee the rear tires for?" In the ten cases not a single accurate answer could be obtained. The guarantee ranged anywhere from 5,000 miles to 20,000 miles; there was nothing definite. The prospective buyers immediately concluded that the great problems of tire maintenance, truck durability, and operating cost, were vague factors with the companies in question. They immediately concluded that the companies' energies had chiefly been focussed on bringing out a truck for the show. This was the one thought. The more business-like details of tire maintenance, suitability of truck for different fields of work, etc., had not even been touched upon. The final verdict was that it was not safe to buy a motor vehicle from a company so ignorant of the real elements of the industry.

AN equal display of ignorance was discovered in many booths on the matter of truck maneuvering. It was rare that a salesman could be discovered who could tell the actual diameter of the circle in which the truck could turn when loaded. The guesses ranged anywhere from 30 to 50 feet. Two

New York coal men were anxious for this information. Their coal-yards are of a certain size, they have but a certain space in which to turn the trucks. They have studied the motor vehicle situation and know that one of the biggest drains in truck operation is time lost in loading, in unloading, and in maneuvering in cramped places. To these men it was a real question. In some cases they tried four different salesmen to get the information, but failed. There is not a question of doubt but that someone in the cases in question knew the diameter of this circle, but they could not be found. Companies should see to it that their salesman are at least familiar with the real practical questions that a businessman is apt to ask when looking for a truck. The majority of these glib-tongued salesmen were quick to explain that the radiator was carried on springs, that the truck had right-hand control, that it had dual tires, that there was a bumper to protect the radiator, and a few other self-evident facts, the very mention of which by the salesmen, told the buyer that the salesman was a very superficial person.

ANOTHER matter in truck salesmanship in which a deplorable lack of information was evident was the matter of right and left-hand control. Scarcely a dynamic reason could be found for either one or the other. One of the most interesting reasons for left-hand control was given by a salesman who expressed himself as follows: "Left-hand control is right. It lets me see the other fellow's half of the street. It is the kind of control that is bound to come. Many are talking against it today but that is because they have trucks with right-hand control: honesty is the best policy, that is our policy, and that is why we are building vehicles with this control." Those prospects are still looking for his reason. It may be a case of the needle in the haystack, but there is very slight indication of the needle even being present were the haystack torn apart piecemeal and placed under the magnifying glass. There are many dynamic reasons for left-hand control; there are many dynamic reasons for right-hand control, but the salesmen should know them.

IT is rarely necessary for the truck salesman to be interested in the concealed engineering and technical details of a truck. What he needs most of all is the knowledge of conditions under which trucks operate, and the practical facts relating to the truck. The cold-blooded business man who has 500 horses in his stables, knows that the truck-maker will certainly put adequate wheels, axles, and bearings on his truck. He knows that they have been building trucks long enough to have discovered that. If he has his doubt on such questions he brings with him a consulting engineer who is competent to pass on such matters without even consulting the salesmen. The same applies to a hundred other parts in conjunction with the motor. It is the practical information, the real operating type of information that is most needed. If the salesman could project himself into the place of the buyer, see his needs, see the conditions under which he has to operate, see the obstacles he has to overcome, see the cramped places in which he has to maneuver his trucks, then he would be able to fashion his questions and fashion his information so as to gain the confidence of the prospective buyer.

Forty-Nine Cars in French Grand Prix

PARIS, Jan. 2—With forty-nine fully paid entries and the prospect of more at double fees, the grand prix race of the Automobile Club of France, to be run at Dieppe during the second fortnight of June, is already assured of success. It doubtless will be the largest number of entrants obtained in any big European race for the last 5 or 6 years, for the 1908 grand prix, which was a record in this respect, attracted forty-nine cars.

A week ago it looked as if the race would have to be abandoned, for at that time the secretary of the racing board only had received twenty entries, and one of the conditions was that a minimum of thirty should be obtained for the event to take place. Germany boycotted the race, Italy decided to do the same, while many of the older French makers, after voting in favor of a race, declined to take part in it. The younger firms, however, came forward in big numbers, and with the assistance of some of the most progressive English firms the number of starters was more than doubled within a week.

The Entry List

The French firms taking part in the race are Lorraine-Dietrich, four cars; Peugeot, four; Darracq, four; Gregoire, four; Alcyon, three; Vinot & Dequingand, three; Sizaire & Naudin, three; Schneider, three; Koecklin, one; Cote, two. The Britishers are: Sunbeam, four; Singer, two; Vauxhall, three; Arrol-Johnston, three; Calthorpe, three. Germany sends one Mathis car; Belgium is represented by an Excelsior, and at present the only American entrant is a Ford put in by Henri Depasse, the selling agent of the company in France. All the cars are four-cylinder four-cycle models with the exception of the two Cotes and the Koecklin, which are two-cycle models.

The grand prix race is unique by reason of the distance to be covered. It has been decided that the test shall comprise a distance of 1200 miles to be covered on 2 consecutive days, the cars to be placed in a garage under military guardianship at the close of the first day, and only handed over to their respective drivers a few minutes before the start on the second day. It is considered by the racing board that the stamina of the cars only can be revealed by a long-distance test of this nature.

Conditions of Race

Although there is only one race, and one first prize of \$4,000, together with a team prize of \$2,000, there are two distinct classes, one being for light cars having a four-cylinder motor of not more than 183 cubic inches displacement with a minimum chassis weight of 1763 pounds, and the other for cars without limitation of power or weight. The light car regulations are practically the same as those

GRAND PRIX ENTRIES

FRANCE	
Lorraine-Dietrich	4
Peugeot	4
Darracq	4
Gregoire	4
Alcyon	3
Vinot & Deguinand	3
Sizaire & Naudin	3
Schneider	3
Koecklin	1
Cote	2
GREAT BRITAIN	
Sunbeam	4
Singer	2
Vauxhall	3
Arrol-Johnston	3
Calthorpe	3
GERMANY	
Mathis	1
BELGIUM	
Excelsior	1
AMERICA	
Ford	1

Contest Board Bulletin

Premier Company Reinstated—Abbott Suspended—Oldfield Turned Down

New York, Jan. 13—The meeting of the contest board of the American Automobile Association, which was held Thursday, was of more than ordinary importance, for it marked the reinstatement of H. O. Smith and the Premier company. The bulletin:

H. O. Smith and the Premier Motor Mfg. Co., of Indianapolis, disqualified and suspended July 27, 1910, for an indefinite period for denying the jurisdiction of the contest board and appealing to the courts for redress, were reinstated.

The formal application for reinstatement to good standing of Barney Oldfield, who is now under disqualification and suspension until July 1, 1912, for promoting and participating in unsanctioned events, was considered and the board refused to reinstate him.

For advertising the performance of the two Abbott-Detroit cars which competed in the 1911 Vanderbilt cup race, held at Savannah, November 27, 1911, as being stock cars, the Abbott Motor Co., Detroit, Mich., and the Abbott-Detroit Motor Co., New York, were disqualified and suspended for 6 months to July 11, 1912.

Rule 75 (a) of the 1911 contest rules prohibits the advertisement of the performance of a car as being the performance of a stock car unless such performance is made in an event regularly sanctioned for and open only to registered stock cars or stock chassis. The 1911 Vanderbilt cup race was run under the rules and with the sanction of the A. A. A. as a class C non-stock event and was open to any motor car with a piston displacement of between 301 and 600 cubic inches whose manufacturer had within the preceding 12 months produced at least fifty cars. The Vanderbilt cup race was not restricted to stock cars and no technical examination is made by the A. A. A. technical committee of cars competing in class C events to ascertain whether they check up with the sworn and approved complete technical specifications on file with the contest board, as is required under the contest rules in those events which are open only to stock cars or stock chassis.

Because of the large number of requests received for reservation of dates for 1912 contests and in order that definite fixed dates may be assigned by the board to those promoters who are prepared to proceed with their preliminary arrangements, it was decided that no requests for dates will be considered unless such requests are accompanied by the sanction fees.

The following tentative reservations have been assigned, conditional upon the promoters complying with this ruling:

February 22—Bakersfield, Calif., road race, Kern County Automobile Racing Association.

May 15, 16, 17—Commercial vehicle run, Chicago Motor Club.

May 30—Indianapolis motor speedway 500-mile race.

June 20—Algonquin hill-climb, Chicago Motor Club.

July 4, 5, 6—Beach races, Old Orchard, Me., Old Orchard Racing Association.

August 8, 9, 10—Beach races, Galveston, Tex., Galveston Automobile Club.

August 23, 24—Elgin National road races—Chicago Motor Club.

September 2—Indianapolis motor speedway.

October 5—Fairmount Park road race, Quaker City Motor Club.

October 7-11—Reliability run, Chicago Motor Club.

in force for last year's race at Boulogne-sur-Mer, the only difference being that the minimum body dimensions have been removed. As these cars will probably average 63 to 64 miles an hour for the full distance, they will be quite as impressive as the bigger racers, and may indeed succeed in winning the first prize, for it is doubtful if the big cars, having more stoppage for tires and fuel, will be able to put up a higher average. Some of the light cars, as for instance the Alcyon, Sizaire-Naudin, Cote and Koecklin, were built last summer and having had the advantage of almost unlimited time for tuning up will be most dangerous competitors. The Alcyon racing motors have developed 80 horsepower on the bench, while the Sizaire's have given 65 horsepower on a prolonged test.

Division of Field

It is not yet definitely known in which classes the respective cars will be entered. In making their entries the manufacturers have not in all cases indicated the class, and probably will not be called upon to do so definitely for several days yet. It is certain, however, that Sizaire-Naudin, Alcyon, Vinot-Deguingand, Calthorpe, Singer, Cote, Ford, Koecklin and Sunbeam will be in the light-car class, together with two of the Peugeots and one Darracq. Probably all the others will be in the big-car class.

The presence of fifteen English cars in the race is a most noticeable feature, and is accounted for by the fact that the race will be run near the seacoast town of Dieppe, or so near to London that it will attract as much attention as if held in Great Britain, and also by the desire of many of these firms to secure a footing on the French market. Already five English firms have opened up establishments in Paris.

Final Entries Close March 1

Final entries for the grand prix race are received at double fees—\$600 for a single car and \$1800 for a full team of four—until 6 p. m. of March 1. It is confidently expected that several other makers will come into the race before this date, probably making a total of nearly sixty cars.

The actual course has not yet been decided upon, but it is understood that a triangular set of roads will be selected in the immediate neighborhood of Dieppe. In all probability it will be a portion of the 1907 and 1908 course, shortened in order to assure more frequent passages in front of the grand stands. The preference will be given to Dieppe on account of the fact that this town has assured a subsidy of \$20,000 to the racing board. The town, however, has decided advantages, for in addition to possessing good roads, it is only 100 miles from Paris and but 6 hours journey from London.

On Minor Show Circuit—at Milwaukee

Fourth Annual Cream City Af-fair Occupies 53,000 Square Feet of Space and 105 Exhibitors Fill the Hall—Pleasure Cars Shown, 45, Commercial Trucks, 24; Accessories, 39

MILWAUKEE, Wis., Jan. 15—More than 55,000 square feet of floor space is occupied by exhibits and displays at the fourth annual Milwaukee motor show, the second under the auspices of the Milwaukee Automobile Dealers' Association, which opened in the Auditorium on Saturday night, and will close Friday evening. The entire first floor of the mammoth building, the largest single structure of its kind in America, is occupied by the show, and in addition the large basement under the main arena floor is utilized.

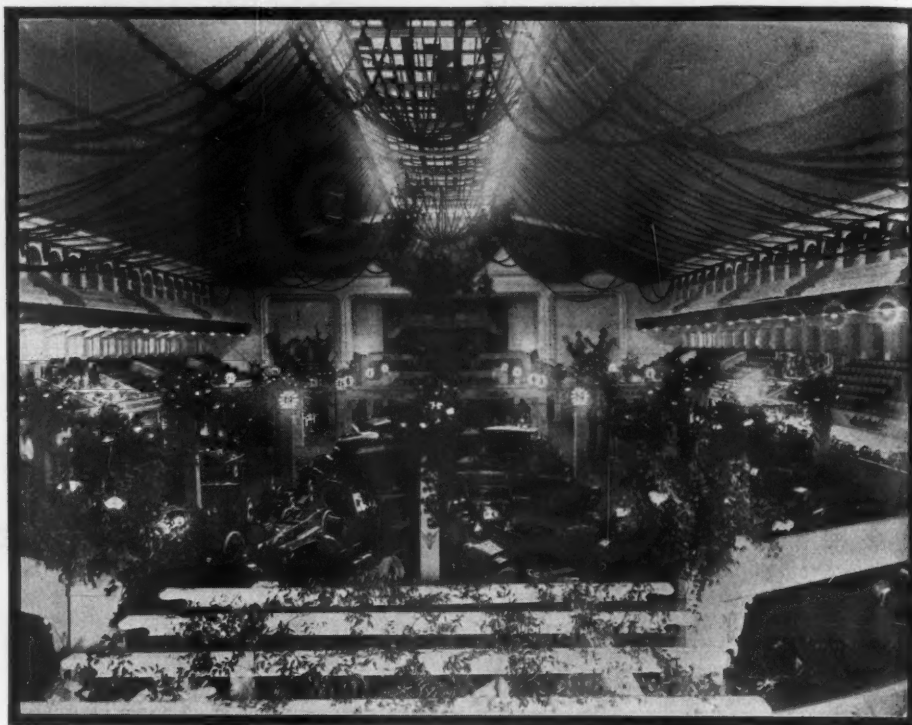
While the aggregate floor space used at the fourth show is not considerably more than in January, 1911—for the Auditorium has its certain limitation in space—nevertheless there is an air about this year's exposition which one finds only in the big shows at Chicago and New York. Things move swimmingly; there is an atmosphere of good business management; the minor details are inconspicuous by the excellent arrangements, and the whole show, although necessarily a local affair, might be classed as a serious rival to some of the bigger expositions.

Many Cars in Show

The total number of exhibitors at the fourth show is 109, distributed as follows: Pleasure car exhibitors, 45; commercial car exhibitors, 24; accessory and supply exhibitors, 39; motor boat exhibitors, 1.

The total number of pleasure cars on the floor of the Auditorium is 261 and there are twenty-seven cars in the basement, or commercial car division. Sixty-seven makes of pleasure cars are exhibited and the largest number of cars exhibited from one factory is eleven.

The period of extreme cold weather experienced by Milwaukee and the middle west for 2 weeks prior to the opening of the show was responsible for a number of disappointments at the show. When the doors were opened Saturday night, the agents for Staver, Michigan, Union, and several other makes had nothing to display in their booths and several other exhibitors had only one-half of their displays on hand. The remainder either was on tracks between the factories and Chicago or between Chicago and Milwaukee, with no prospect of getting them into the city, to say nothing of getting them on the floor, before Monday afternoon. Frantic efforts were made all day Saturday to locate the shipments. The agents for the



GENERAL VIEW OF THE MILWAUKEE SHOW

Imperial, for instance, after spending the better part of Saturday and Sunday at the telephone, discovered that their show cars were lying on tracks 4 miles south of Fortieth street in Chicago.

The American Locomotive Co.'s Chicago branch, which is exhibiting Alco commercial cars here, negotiated a stunt that not only brought it a lot of good publicity but got its big show truck to Milwaukee on the opening night. A 3½-ton Alco chassis had been shipped via a boat line out of Chicago on Friday night, but on the following morning the boat came back to Chicago, unable to make headway to Milwaukee. The chassis was run off and loaded on a 5-ton Alco truck and driven to Milwaukee, 91 miles, the start being Saturday noon. Sunday morning the big car, covered with ice and snow, rumbled up to the Auditorium in Milwaukee and was given its place in the commercial division, having been 18 hours on the road.

The decorative scheme this year is one of unusual beauty, being of a semi-tropical type in a monotone green, deep cardinal and gold. The names of all cars are placed in facsimile on the signs above the exhibits, each of which is divided from the other by rails and fancies in artistic design.

A striking feature of the 1912 show is the more hearty co-operation of factories with the local dealers, made more apparent in the large number of polished chassis, cut-out motors and other big show display stuff. Almost every exhibitor has a polished or well-painted stripped chassis. The Knight motor is shown by the Stearns

representative in cutout form and is proving to be one of the most educational exhibits at the show. Another Knight type is the Stoddard six, shown in a demonstrator which has made 7,000 or more miles before being brought to Milwaukee. One foreign car, the Fiat, is shown in polished chassis.

Among the new makes never before exhibited in Milwaukee are: Abbott-Detroit, Elmore, Stearns-Knight, Hupp-Yeats, and Flanders electrics; R. C. H., Oakland, Oldsmobile, National, Herreshoff, Westcott, Everitt, Garford, Courier-Clermont, Premier, King, Union, Michigan, Nyberg and Paige-Detroit.

Newcomers in the commercial car division are: Pierce-Arrow, Ford, Chase, United States, Monitor, Menominee, Peerless, and Progress.

Big Crowd First Night

Previous Milwaukee shows have generally been opened on Monday or Tuesday nights and continued until Saturday. This year's show was opened on a Saturday night, as are the big shows, and the experiment proved successful, judging from the attendance. This, however, was augmented by the large attendance of members of the Milwaukee Automobile Club, the 575 members being supplied with two tickets each. The show was open all day Sunday, too, which was another experiment, and proved much more successful than expected.

There will be several important conventions and meetings during the week, among them the annual of the Wisconsin State A. A. on Thursday afternoon; the

Philadelphia's Show Buildings Packed

organization meeting of the Wisconsin State Automobile Dealers' Association, and the organization of the commercial vehicle builders' body.

BIG BUSINESS AT PEORIA SHOW

Peoria, Ill., Jan. 13—With a record-breaking attendance, the Peoria show closed last evening at the Coliseum. Despite the severely cold weather, 30,000 people attended the show during the 4 days on which it held forth. Seventy-two cars had been sold outright, and nearly 200 agency deals had been closed up. Demonstrating cars were kept busy each day of the show, and sales through this means were reported better on the average than from the floor alone. One concern sold every car in its booth, while four others report closing deals for every one of their exhibit cars.

Nearly 200 cars were on display, a score of motor cycles, and hundreds of accessory exhibits filling in the out-of-the-way places.

It is estimated that at least 8,000 out-of-town people visited the show, among this class being many of the purchasers. Society night—the opening evening—was marred by exceptionally cold weather, and it was proposed that the show continue over Sunday, to make up attendance totals. But the excessive crowds of the closing day dismissed any cause for such action and it was not done.

DENVER SELLS SPACE EASILY

Denver, Colo., Jan. 15—The prospectus of the Denver show, which will be held March 12-16, indicates that not only will every available space be taken but that in the number of varieties of exhibits the show will be more represented than last year. They are available on the main floor, terrace and in the lobbies, 15,200 square feet of exhibit space for passenger, freight, motor cars and motor cycles. The sixty boxes will be occupied by exhibitors of accessories. Practically all this space has already been subscribed for. Twenty-six dealers, representing forty-five lines of cars, practically every machine sold in the city, have signified their intention to exhibit.

DAVENPORT CROWDED FOR SPACE

Davenport, Ia., Jan. 15—Owing to the exceptionally large demand for floor space at the annual Davenport show, February 27-29 and March 1-2, some of the dealers in the tri-cities will be unable to have exhibits, although the stage of the Coliseum, the largest hall in the city, was turned into exhibit space. This large increase in demand for space is due to the entry of the commercial car. Last year there was but one truck on exhibit and this season the trucks are to be the feature of the show. Floor space will be allotted this week.

PHILADELPHIA, Pa., Jan. 13—Frigid weather and streets and sidewalks covered with a sheet of ice that made riding and walking hazardous occupations did not deter Philadelphians from turning out in force to witness the opening of the eleventh annual show tonight. Philadelphia has had ten previous shows, and each was considered a model of its kind, but it remained for this eleventh exhibition, or business exposition, as it has been aptly termed, to establish a standard for number and variety of displays, beauty of decorations and enthusiastic response upon the part of the public.

Outside of the old cry of lack of room, the show is the most brilliant that ever has been the good fortune of Philadelphians to witness and the outburst of enthusiasm that greeted the assurance of Mayor Blankenburg, who opened the show, of a larger building in the course of 2 or 3 years was deafening.

There are thirty companies represented in the First Regiment armory, and twenty-seven in the Third, a total of upward of 300 cars being on view, the total monetary value of which is appraised at \$1,500,000. There is no method of computing the magnitude of this year's exhibition were there a structure of sufficient proportions to allow of unlimited disposal of space. While the motor car has become more firmly entrenched, the accommodations have not kept pace with the industry's forward strides. Long ago the annual exhibition outgrew one building and now two of the most commodious structures that could be secured are inadequate.

Massed beneath the roofs of the two armories is a magnificent collection of cars. Indeed, there is so much to see that, with few exceptions, the combination ticket issued for admission was not wholly used tonight. To all intents and purposes the exhibition amounts to two separate shows for the average person.

In the Third Regiment armory the pictorial idea that has been so successfully carried out shows the forest of Fontainebleau, France. At the First Regiment armory the main scene is a panorama of the bay of Naples, showing the harbor and Mount Vesuvius in the distance. The side walls are in balustrade effect supported by a stone wall overgrown with moss and plants. Over all is a blue sky.

The individual electric signs designating the booths of the various exhibitors in both structures are of uniform size and shape, being shown as the apex of an inverted pyramid suspended by invisible wires from the ceiling, the name of the car being on the sides. The decorations are the most elaborate for temporary purposes ever carried out.

Exhibition spaces are of uniform size and design and the aisles of convenient

Despite Cold Weather Large Crowds Attend Quaker City Opening—More Than 300 Cars Are on View Representing a Value of \$1,500,000—Two Big Armories Are Used

width, enabling freedom of motion, and in spite of the large attendance the arrangement of the spaces facilitated movement in any direction and the roomy aisles were at no time uncomfortably crowded.

Band concerts formed an enjoyable feature of opening night and they will be continued every afternoon and evening for the 2 weeks. The show will open each day at 10 o'clock and remain open till 11 at night, this move having been decided upon by the show committee in view of the large number of out of town visitors.

At the Third Regiment armory in addition to the twenty-seven makers of gasoline pleasure cars there are a score of accessories dealers represented, occupying the north and south walls. Large electric show signs extend across Broad street at Callowhill, Arch and Wharton streets.

Next week the two armories will be turned over to the display of commercial vehicles and electrics, of which there will be about forty makes of the former and ten of the latter. It will be Monday or Tuesday before the show gets running smoothly, not all of the exhibits being fully installed tonight.

DETROIT SHOW NEXT

Detroit, Mich., Jan. 15—The opening of the Detroit show is only a week away. Already many of the exhibits from the garden show in New York are here, waiting to be placed, but other demands on the Wayne casino, where most of the exhibits will be housed, have made it impossible for the D. A. D. A. to take possession and in consequence the entire show, including decorations, must be put together in less than a week's time.

BALTIMORE LISTS CLOSE

Baltimore, Md., Jan. 15—The time for placing applications for floor space at the local motor car show to be held in the Fifth Regiment armory from February 20 to 28 has closed. The list shows that thirty-four dealers have asked for floor space. When the members of the show committee get settled after their visit to the New York show they will arrange plans for the various booths. Drawings for space will be made by dealers of pleasure cars on January 22. Applications from accessories dealers will close January 24 while those for commercial cars will not be received after January 25.

Demand Federal Aid in Making Roads

Session Held in Washington Under Auspices of A. A. A., Which Is Attended By 105 Delegates from Twenty-Three States—Speaker Champ Clark Among Notables Present to Address Meeting at First Day's Session

WASHINGTON, D. C., Jan. 16—Special telegram—The first federal aid convention for good roads ever held in this country opened today with Robert P. Hooper, president of the A. A. A. presiding. He called attention to the fact that the governors of twenty-three states had sent 105 delegates to the convention, seventeen boards of trade and chambers of commerce had sent twenty-eight delegates, thirteen good roads associations, twenty-seven delegates; two farmers' organizations, three delegates, and twenty-six motor clubs and associations, thirty-two delegates. In all, eighty-one organizations were represented in the convention by the delegates, besides many not classified. Fifty or more delegates have been delayed in arriving on account of the heavy snow.

President Hooper introduced George C. Diehl, chairman of the A. A. A. good roads committee, who outlined in detail the purposes of the convention and who was selected as permanent chairman of the convention.

Way to Raise Funds

Advocating an additional national revenue tax of 10 per cent on liquors and cigars, the revenue thus derived to be used in the building of good roads throughout the country, Jesse Taylor, president of the Ohio Good Roads Federation, aroused the delegates to a high point of enthusiasm of the opening session.

"With such a tax in force and devoted to this purpose we could in 25 years have the greatest system of public highways in the world," declared the speaker. The topic assigned to Mr. Taylor was "Rural Folk and Mud Roads" and he handled it in such a way as to start the convention off with a big burst of enthusiasm. While he confessed he did not own a car, he quoted facts and figures to prove that a good system of highways throughout the nation would do much towards reducing the high cost of living.

"The cost per ton-mile of hauling the farmers' products in England and France is approximately 8½ cents, while in this country it is 23 cents and this speaks eloquently of the need for better highways," said Mr. Taylor. "Congress has appropriated millions for improving the highways of the insular possessions, but when it is suggested that the federal government give its aid in improving the roadways of our own country, a tremendous howl goes up and the old cry that it is against our beloved constitution is raised. If it is right to shoot millions of dollars into our insular possessions to im-

prove their roads it is certainly right that something should be done by the government for our own highways."

Mr. Taylor called attention to the fact that from 1832 until the last agricultural appropriation bill was passed by congress and not 1 cent of money had been voted for roadway improvement. In this bill, he declared, there was an appropriation of \$10,000 for highway improvement, and in the mass of items it was one thing that caught President Taft's eye. As soon as the bill became a law he requested the money be used at once in improving the road leading from Washington to the Chevy Chase Club.

"A deal was made with the state of Maryland for the appropriation of an equal amount of money and the result is the president has a fine roadway leading to the club where he plays golf. If this appropriation was proper there is no question but what the government can appropriate money in large sums to aid the building of better roads."

Mr. Taylor declared war on Senator Burton of Ohio for his opposition to the movement to obtain federal aid.

At the suggestion of Lewis R. Speare, of Boston, a committee on resolutions was appointed, to which will be referred all resolutions for action before they come before the convention. The resolutions committee is composed of the following: Robert P. Hooper, of Pennsylvania, chairman; Lewis R. Spears, Massachusetts; Charles Henry Davis, New York; Frank M. Joyce, Minnesota; J. H. Cook, Alabama; Ralph W. Smith, Colorado; A. G. Batchelder, New Jersey; Jesse Taylor, Ohio; Philip T. Colegrove, Michigan; S. S. Ballard, Vermont; Roy F. Britton, Missouri; E. G. Kuster, California; Doll M. Potter, Arizona; John C. Scates, Maine; George W. Baker, Texas; John N. Brooks, Connecticut; Dr. H. M. Rowe, Maryland; Preston Belvin, Virginia; W. D. Hosford, Nebraska; General T. Coleman Du Pont and O. C. Barber.

An interesting development during the day was a poll of the Ohio congressional delegation on the question of federal aid in improving the nation's roadways. Senator Pomerene heartily indorsed the proposition, while his colleague, Senator Burton, said he regarded it as one of the most foolish moves ever presented to congress. Of the twenty-one congressmen from Ohio seventeen are strongly in favor of the plan, one is open "to be shown" while Congressmen Nicholas Longworth, J. D. Post and C. C. Anderson declined to state their views.

Senator Pomerene said: "The amount of money the government expends to construct a battleship would build and pave with the best of brick 666 miles of public highway. I prefer voting to expend \$10,000,000 for better highways than to expend the same amount for an engine of war. In the construction of main thoroughfares the cost should be distributed so that the township, county and municipality should bear a great proportion thereof."

Congressman H. C. Claypool suggested the United States release at the earliest possible moment all claim to the Philippine islands, and with the millions thus saved improve home possessions by building some first-class trunk line public highways.

Congressman Sherwood Pledged

Congressman Sherwood, advocate of dollar a day pensions, said: "Of course I am for better roads, and for every legitimate means to make them better, not so much for the fast-moving motor cars, but for the benefit of those who drive and ride man's best animal friend, the horse."

Champ Clark, speaker of the house, received an ovation when he appeared at the afternoon session. He declared he was heartily in favor of the general proposition for which the convention was fighting, and called attention to the fact that the cost of bad roads in this country was more than \$800,000,000 a year, a sum almost equal to the national debt.

"Everybody is in favor of good roads," he said, "unless there is something the matter with his head. The man who will invent or discover a good and cheap road material, one that can be furnished cheaply to all parts of the country, will deserve a monument higher than the Washington monument in the nation's capital. If the federal government wants to build good roads I maintain it has a perfect right to do so and I am going to help every sane and practical proposition to secure government participation in the good roads movement."

The speaker came out strong for the Lincoln memorial highway from Washington to Gettysburg. "I believe," he said, "the time has come for the general government to actively and powerfully cooperate with the states in building a great system of highways. I believe the building of the Lincoln highway would be the entering wedge for the creation of a splendid system of roads that would bring its benefits to every citizen in this grand country of ours."

Senator J. H. Bankhead, of Alabama, pointed out reasons why the government should help in the building of the good

roads, quoting statesmen of the past who favored federal aid.

"Who can say it is not right," he declared, "to appropriate money for good roads in our own country when congress appropriates millions and millions of dollars to improve the roads of the Philippines, Porto Rico and Alaska in order to advance their civilization of those countries. Go slowly and prudently in asking congress to help you. Your first move should be to ask for an appropriation of \$1,000,000 to provide ways and means to improve the country's highways, thereby setting in motion the greatest movement this country has ever known."

He predicted that before the present congress adjourned a bill providing for building good roads would be enacted. "I have 8 years more to serve in the senate and will spend it in advocating the adoption of national and state aid in road building," he declared.

Representative Prouty in the course of his remarks said that if the money for building better roads could not be obtained elsewhere, congress might top off a little from the naval appropriations bills and thus obtain vast sums. Many other congressmen spoke during the afternoon and evening sessions.

COLORADO ROAD BODY ORGANIZED

Denver, Colo., Jan. 13—Colorado has been completely absorbed with the good roads question this week, and interest in the propaganda for the improvement of the state highways has reached an unprecedented pitch. The immediate occasion of the outburst of enthusiasm was the meeting of the Colorado good roads conference in Pueblo, Thursday and Friday. In response to the call for the convention issued by President C. A. Johnson, 1435 accredited delegates gathered to discuss the principal business before the conference, namely, what would that organization recommend to the state highway commission as the principal route through Colorado for the transcontinental highway. There were more factions in the body than in the ordinary political convention, for each section of the state is determined that the main stream of travel shall be turned through it, and as a result the meeting waxed bitter at times. Finally the Denver delegation, supported by the representatives of several northern Colorado counties, split from the official body to meet in the Congress hotel and organize the Greater Colorado Highway Association.

Colorado's topographical conditions are such that there are but a limited number of routes which by any possibility could be used for transcontinental travel, and the three plains cities, Denver, Colorado Springs and Pueblo, lying near the foothills, each demand that the main highway thread the mountains by the respective passes which are approached best from them. Pueblo is on the old Santa Fe trail, which is being improved in many

places and proclaimed as the main transcontinental route. Colorado Springs would send the tourists straight west from there through the Ute pass, while Denver favors a road which follows the Clear Creek valley from the city and crosses the range on Berthoud pass. The southern Colorado counties were represented by large and active delegations. On the final vote which resulted in a victory for the Pueblo route by a vote of 613 to 411 their force was seen to the best advantage for they were able, though representing only thirteen counties, to overcome the thirty-one arrayed against them.

It was at this point that the northern delegates withdrew and adopted resolutions protesting against the tactics of their colleagues and denouncing the persons who had packed the convention against them. They determined to accept defeat gracefully, however, and returned to the next session of the conference after organizing the Greater Colorado Highway Association, which is but a local organization for the promotion of the good roads movement in the northern counties.

While the conference is but a semi-official body and cannot enforce its recommendations, yet it is felt that the state highway commission which controls the funds appropriated by the legislature for state highways will follow the suggestion of the conference in building roads. A large sum, sufficient to build magnificent highways over all three of the passes, has been appropriated, but is unavailable and now that the Pueblo route has been recommended by the conference, whatever portion of the funds becomes available this year will probably go to the construction of that road while the mid-state roads may be abandoned temporarily.

TO STARVE OUT TOLL ROADS

Syracuse, N. Y., Jan. 13—The Automobile Club of Syracuse and the chamber of commerce have a unique plan to put the toll gate roads which still operate in Onondaga county out of business. Instead of throttling them, it is proposed to let them die a natural death in a clever way. Recently both bodies adopted resolutions submitting that it would be unwise to seek legislation against the toll roads on the Cicero plank road and the Fayetteville turnpike at the coming session of the legislature. An attempt was made a year ago, but opposition was too strong and the roads endured.

Now it is planned to force the roads to suicide through essentially peaceful means. Natural competition is the means in mind. New state roads, to be built in this county during 1912, will be laid out parallel with the two toll roads mentioned. It is planned to make the new state roads fully as desirable as the two present highways in the matter of direct travel between the several communities, and they will also, of course, be far better highways than the toll roads. Thus, it is argued, the inevitable outcome will be to divert traf-

fic from the present roads, and through the accompanying loss of receipts there will be no fund to maintain them and they must perforce be abandoned. This last is a consummation devoutly wished by the motorists of Syracuse and the county generally, who use both these roads to a great extent but will use others as soon as they can.

ROAD MEETING AT PEORIA

Peoria, Ill., Jan. 13—At the annual meeting of the Peoria Automobile Association, late Saturday afternoon, a campaign for good roads was inaugurated, which will be carried on throughout the coming year. Ferdinand Luthy outlined the good that could be obtained from a campaign for good roads by the association, and expressed the conviction that unless organized effort was put forth, no results would follow. At a meeting to be held next Friday, the new officers will take up the matter at length, and a committee will be appointed to formulate plans for the work. The newly-elected officers are: Albert Randall, president; George Cummings, vice-president; B. Barton, secretary; W. Scanlon, treasurer.

UNDERTAKER DISCIPLINED

Louisville, Ky., Jan. 15—Because he uses a motor hearse, instead of an ordinary horse-drawn vehicle used by undertakers, the Funeral Directors' Association of the Falls Cities suspended L. D. Bax, an undertaker of this city the other day. Mr. Bax, who is the undertaker for the city of Louisville, is frequently called upon to make trips 14 miles beyond the city and finds it impossible, he says, to handle the funerals without a motor hearse. So the Louisville undertaker, who believes he is following the march of progress, has filed suit here to restrain by court order the officers of the organization from ousting him. Judge Quarrels has signed a temporary restraining order.

E. C. Pearson, president of the association, says that the only objection the members of the organization have to motor-driven vehicles is the difference it will make in the expenses attached to funerals and the increase in the cost of keeping up undertaking establishments. If one undertaker is allowed to use such vehicles, he says, all will have to procure them in order to meet competition, and therefore it will be a hardship upon all. The association has thirty members.

AROUSING THE FARMERS

Columbus, O., Jan. 13—One of the features of the annual convention of the Ohio Farmers' Congress held in Columbus, was the address by Jesse Taylor of the Ohio Good Roads Federation on "Get Out of the Mud." He declared that Ohio farmers could get from 5 to 15 per cent more for their products if good roads predominated. He asked the influence of the farmers to influence legislative representatives in the interests of the improvement of the highways.

CANDELILLA WAX INDUSTRY

Mexico Offers Opportunity to Those Seeking to Make Insulating Material

OKLAHOMA CITY, Okla.—Editor Motor Age—Referring to pages 44 and 45 of Motor Age of the December 14 issue, to an article on candelilla wax, used for insulation, this article interests me greatly, and I would like to learn more concerning this weed, and the manufacture of wax, also, where it is to be found in abundance in Texas. I think I would like to form a company and engage in the business. If Motor Age can direct me to a good spot in Texas where this business could be carried on profitably, I would be very grateful for the information.—F. B. Moody.

Motor Age is informed that there are now several candelilla wax factories in Mexico. Theodore Harris, whose address is Crockett hotel, San Antonio, Texas, is operating one or more factories in the Monterey territory and is disposing of considerable quantities of the wax. A letter to him doubtless would bring full particulars as to the extent of the industry in that country. The Rio Grande Wax Co. has a candelilla factory at Alpine, Texas. Another factory is in operation at Sanderson, Texas, and another south of Sierra Blanca, Texas. Oscar Pacius, the German chemist who discovered the wax properties of the candelilla plant, is interested in the Texas factories. His address is either Alpine or Sanderson. Letters addressed to him at both places would be sure to reach him.

The industry has passed the experimental stage, and there is said to be a much larger demand for the wax than the present factories can supply. The weed grows wild over a big area of the upper border region of Texas and a large portion of the states of Coahuila, Nuevo Leon and Zacatecas, in Mexico.

CHANGING COIL PRINCIPLE

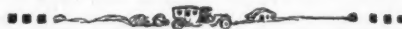
Waterloo, Iowa—Editor Motor Age—Will Motor Age kindly publish in an early issue why a vibrating coil cannot be used in place of a non-vibrating coil, and if it can, how it can be done?—K. E. K.

It is claimed that a vibrating coil can be used satisfactorily as a non-vibrating coil by simply screwing down the vibrator and using a circuit-breaker in the ignition system instead of a timer. When the contact points of a coil are screwed down it virtually becomes a non-vibrating coil, and in the absence of the vibrator as a means of making and breaking the primarily circuit a circuit-breaker must be employed for this purpose. Of course a timer does this, but not with sufficient snap to operate satisfactorily or to be economical of current. This method of converting a vibrating coil into a non-vibrating coil is not recommended, however, as the converted system is more apt to give more trouble than it is worth. Therefore, if the change is desired it per-



The Readers'

Oklahoma Reader Anxious To Start Factory To Manufacture Candelilla Wax, Discovery of Which Was Recently Described in Motor Age



REGULATING ROAD TRAFFIC

Montana Reader Asks Difference Between English and American Rules

Anaconda, Mont.—Editor Motor Age—Through the Readers' Clearing House will Motor Age answer the following questions:

1—What is meant by "law of the road" in motor car parlance?

2—In what respect does the American law differ from the English law?

3—Why are the wheels of a car made the same size.—A Reader.

1—The term is heard more generally as "rules of the road." In some instances these are unwritten rules only, a sort of a gentlemen's agreement, while there are states and cities which have enacted legislation along these lines which compels the obedience of such regulations by users of the highways, such as permitting a faster vehicle to pass, keeping to the right of the road, slowing at corners, taking corners with a wide swing and always stopping with the right wheels to the curb.

2—In England all vehicles keep to the left while in this country the habit is to keep to the right. The English idea, however, is finding favor in other countries, France is considering the advisability of following the English method.

3—They are not always made the same size, but it is more desirable in order to avoid carrying different sizes of tires.

KEROSENE AS ANTI-FREEZE

Stromsburg, Neb.—Editor Motor Age—In the Readers' Clearing House the use of kerosene as a cooling medium is discussed, but nothing said about safety. Would it be safe? Does it expand and contract so as to create a current through the radiator with the thermo-syphon system? What is its boiling point? What is its igniting temperature, that is—how hot could it get before taking fire?

I have a Maxwell car and would very much appreciate any information, as I know of no one who has tried it here.—Reader.

Motor Age does not recommend the use of kerosene as a cooling agent. A Motor Age representative recently watched a disastrous experiment along this line. The kerosene served all right for 3 or 4 very cold days, but when the weather turned warm the motor heated so badly that the cylinders were scored and the solder in the radiator partially destroyed, calling for a repair bill of almost \$30.

haps would be most practicable to install a new ignition system in which a non-vibrating coil is employed. If you insist upon trying out the vibrating coil as above described Motor Age would be glad to hear of your success with it. A more permanent arrangement is to short-circuit the terminals of the vibrator by means of a wire.

TWO HORSEPOWER EQUATIONS

Emmetsburg, Ia.—Editor Motor Age—Through the Readers' Clearing House will Motor Age give me a good method of figuring horsepower by bore and stroke?—P. S. Brown.

The accepted method of calculating horsepower is as follows:

$$D^2 \times N$$

$$HP = \frac{\quad}{2.5}$$

D=cylinder diameter in inches.

N=the number of cylinders.

2.5=constant.

In a 5 by 5 motor the equation becomes:

$$5 \times 5 \times 4$$

$$HP = \frac{\quad}{2.5} \text{ or } 40 \text{ horsepower.}$$

$$2.5$$

For a six-cylinder motor you would add one-half more, giving 60 horsepower.

You ask for a formula in which the stroke becomes a factor. Such a formula is as follows:

$$HP = .197d (d-1) (R+2) N$$

In this D is the diameter of the cylinder in inches.

R is the stroke divided by the diameter.

N the number of cylinders.

In a 5 by 5 motor this equation becomes:

$$HP = .197 \times 5 (5-1) (1+2) 4$$

$$= 47.28$$

MARINE COMPRESSION PRESSURE

Chicago—Editor Motor Age.—Kindly advise me through the Readers' Clearing House columns the proper compression to allow for a four-cycle four cylinder motor boat engine, 4½ by 6 inches.—I. L.

This depends on the design of the motor but should be from .60 to .75 pounds per square inch.

EDITOR'S NOTE.—To the Readers of the Clearing House columns: Motor Age insists on having bona fide signatures to all communications published in this department. It has been discovered that the proper signature has not been given on many communications, and Motor Age will not publish such communications, and will take steps to hunt down the offenders of this rule if it is violated.

Clearing House

Pennsylvania Motorist Puzzles Over Mechanical Difficulties Which Are Diagnosed As Possibly Carbureter Trouble —Does Cold Affect Storage Battery?

POSSIBLY THE CARBURETER

Mysterious Trouble of Pennsylvanian Ascribed to Gasoline Department

Allentown, Pa.—Editor Motor Age—Having a little trouble on my 1910 Chalmers 30 touring car, I would like some advice on it. On direct drive between 12 and 17 miles per hour, when accelerating or coming down to this speed in going up a grade my motor gives all the sensation of missing and laboring but does not knock or pound and it does not miss at all. We have tried everything with no results. The motor was cleaned out thoroughly, valves ground, bearings tightened, magneto cleaned, batteries renewed, coils examined, clutch cleaned out and new mixture installed, transmission flushed out and carefully examined, no lost motion discovered, bearings in fine condition, the universal was taken out and showed no wear; the rear construction was all down and the bearings in the drive shaft line were fine, with no end play, master pinion, bevel gear and differential as well as bearings being in the best condition possible. The valve vages or caps were all tight, the carbureter intake gasket was tight; the motor fired regularly either idle or running at any speed; compression on three cylinders was good, the other not so good, just about the same as it has always been. Have had the same carbureter for 6 months. The adjustments are the same as last winter when I did not have any trouble. There is no evidence of this trouble at over 20 miles per hour. There is no noise in the compartment housing the timing gears. The result is the same either battery or magneto side, the wiring is all good, and neither service nor emergency brake drags.—C. E. Ahlum.

Your trouble would seem to indicate that between the speeds of 12 and 17 miles an hour your carbureter fails to work properly. If you are using the Mayer carbureter it is possible there is a little dirt or water in the chamber just behind the spray nozzle or between the spray nozzle and the float chamber or it may be that something prevents the balls from being lifted to the required height. Or perhaps the level in the float chamber is not correctly maintained at this speed. The thoroughness with which all other possible causes of your trouble seem to have been dealt with leads one to believe that

the mixture either is abnormally enriched or starved between the speeds of 12 and 17 miles an hour and that this condition causes the trouble which you experience. There is, however, a bare possibility that because of lost motion in the ignition control or a loose engine leg bolt permits unusual vibration of the motor at the speeds mentioned. Motor Age would be glad to hear from any reader who has had a similar experience or who might suggest other possible causes or remedies for the trouble.

GUARDING AGAINST JACK FROST

Jewell, Ia.—Editor Motor Age—Through the Readers' Clearing House will Motor Age answer the following questions:

1—What is it prevents the storage battery on the 1912 Cadillac from freezing in the winter time, as well as the ordinary storage battery?

2—On what model did the Velie 30 use the transmission integral with the differential?—Subscriber.

1—An Exide battery is used in the Delco starting, lighting and ignition equipment of the 1912 Cadillac. This battery has a sulphuric acid solution and will not freeze above 35 degrees below zero.

2—The gearset of the Velie 30 always has been located amidships. In the Velie Junior, a new model for 1912, the gearset is a unit with the differential.

CHALMERS AND WINTON STARTERS

Mina, S. D.—Editor Motor Age—Through the Readers' Clearing House will Motor Age advise me who makes the compressed air self-starters used on the Winton and Chalmers cars for 1912? Have the makers of these cars exclusive rights to use them or could they be attached to any car?—Reader.

The self-starters used on the Winton and Chalmers cars are respectively made by the Winton and Chalmers companies. It is most probable that these companies have protected the designs of their self-starters by securing patent rights on them.

EDITOR'S NOTE.—In this department Motor Age answers free of charge questions regarding motor problems, and invites the discussion of pertinent subjects. Correspondence is solicited from subscribers and others. All communications must be properly signed, and should the writer not wish his name to appear, he may use any nom de plume desired

OVERWORKING MAGNETO Using Plugs All of One Make Advice Given an Illinois Motorist

Cabery, Ill.—Editor Motor Age—Please answer the following through the Readers' Clearing House columns of Motor Age:

1—Should a spark plug of one manufacture be used on a four-cylinder engine? Would this give better results than four different kinds?

2—What compounds can be put on differential covers to prevent grease from leaking?

3—Does the amount of volts or amperes determine the shocking power of an electric current?

4—Does a Ford magneto produce a larger and stronger electrical output than a Bosch or Remy?

5—What is the output of the Moon and Auburn factories?

6—Would an oil of 455 viscosity be too heavy for a Moon 30 oiling system?

7—Will ammonium hydroxide injure brass?

8—If you have four dry cells of 10 amperes each and one of 5 amperes connected in series, what is the amperage of the whole? Does the poor one cut down the rest?

9—What is the trouble when a Ford car with electric lights will run with the lights turned off, but will miss and die with them on, especially at low speed? No short-circuits can be found. The globes are the right size.

10—Can a short-circuit occur through a wood dash?—C. E. Christ.

1—It seems reasonable to believe that the use of one make of plugs in all the cylinders of a motor at one time would be most practicable, inasmuch as they would be most apt to promote more uniform firing, owing to their similarity of construction. It is possible, however, to adjust almost any combination of different makes of spark plugs so that no difference in the regularity could be detected.

2—If the trouble is due to a leakage of oil through the pores of the differential cover it might be eliminated by applying a coat of schellac to the inside of the cover. If it takes place around the joint between the cover and the main part of the case it would be advisable to cut a gasket from felt about 1-16 or 1/8 inch in thickness, schellac this thoroughly on both sides, then schellac both edges or contact surfaces of both the cover and case, and assemble the gasket and cover into position. After the cover has been applied in this manner do not use the car until the schellac has had several hours' time to dry, and you should have no more trouble from leakage at this point.

3—Yes. The higher the voltage of a current the greater its shocking power, provided the frequency remains the same. With currents of the same voltage, how-

ever, an increase in the frequency of alternation will lessen the shock. For instance, in the laboratory with very high-frequency pressures as high as 100,000 volts can be taken without danger.

4—Motor Age has no record of the electrical output of the magnetos mentioned.

5—The output of the Moon factory is between 1,500 and 1,800 cars a year. Motor Age has no record of the output of the Auburn plant, but believe that this information could be readily obtained from Maurice Eckhart, of the Auburn plant, Auburn, Ind.

6—During the cold weather that now prevails throughout the greater part of the country a lighter oil would most probably give better service. At ordinary temperatures, however, the grade mentioned should not be too heavy.

7—Inasmuch as ammonium attacks brass, it would all depend upon the strength of the ammonium hydrate and the length of time in which it was in contact with the brass.

8—The ampereage of the five cells would be 9; if each of the cells gave an ampereage of 10 the total ampereage would be 10.

9—The trouble is due to the fact that too much current is being used with the lights and not enough is left to provide suitable ignition. This is the reason why the Ford company does not recommend the use of its magneto for lighting purposes. It is a common complaint that the use of this magneto for both lighting and ignition causes more trouble than it is worth. It is designed for ignition purposes only.

10—It is hardly probable that a short-circuit could occur through a wood dash unless there was either a crack in the dash with moisture in the crack and two naked high-tension conductors opposite the crack, and even then either some metal, moisture or a contact of some kind would be necessary as a wooden dashboard is generally from $\frac{1}{2}$ to 1 inch in thickness, which is quite a jump through an insulator as a piece of wood.

DRUMMERS USE MOTOR CARS

Quincy, Ill.—Editor Motor Age—Will Motor Age advise through the Readers' Clearing House the names of a few manufacturers and jobbers who are traveling salesmen in motor cars?—Reader.

If you will inquire of the motor manufacturers, most of whose addresses are obtainable from the advertising columns of Motor Age, there is no doubt but what you will get a long list from any of them of manufacturers who have provided motor cars for the use of their traveling salesmen. The De Laval Separator Co., which has an agency in many of the largest cities throughout the world, is using forty Cole cars for this purpose, it is claimed. Overland cars are being used by the sales agents of the J. I. Case company, of Racine, Wis.

Does Retreading Pay?

A. D. Carpenter Contends, After 7 Years Experience, That It Is Best Throw Casings Away After They Have Developed Structural Weakness

Sauk Center, Minn.—Editor Motor Age—After 7 years of experience in driving a motor car I have come to the conclusion that retreading any tire does not pay the motorist, and believe it far better to throw casings away as soon as they develop weakness rather than get them retreaded. I assume under the above heading that I am in the right, and would be much pleased to have motorists take up this important question and give their views pros and cons to the end that we may save money in the use of the tires. At the present prices of any and all styles of tires, the retreading is a far greater item than a new tire, so to speak, as for instance, I would have to pay from \$6 to \$11 for a retread, owing to the party doing the work, when I can buy a new one of the same size for from \$10.53 to \$15.50, according to the party selling, and his view of profit.

I have had a number retreaded and in every instance, bar none, I have not received one-fourth of the price paid in return for the work, and the tires so repaired looked fairly worth the expense. One tire, I plainly remember, blew out on the wheel after it was retreaded, and it never had been run a single rod, this fact convincing me that the heat process really hastened the death of the tire. For this same tire I paid a Chicago firm \$10 for rebuilding the same, which includes a relining and recovering of the whole tire, and still it would not hold the air pressure of 60 pounds.

I have a set of four on my car today that have done over 8,000 miles and with one exception one front tire is worn down almost to the fabric; they do not show signs of wear to any great extent, and I feel certain that they will give me 4,000 miles more, with possible punctures and blowouts. If my judgment holds good I am paying for a mileage of 12,000 miles

at about $\frac{3}{4}$ cents per mile. Of course it may be this is an exception to the general run of tires in use, and I think my former tires did not give this high effectiveness in use without repairs, which, as stated, did not return any dividends. I am almost certain that it really pays to own a small vulcanizer which will make small repairs for cuts unavoidable, where the treatment I spoke of some time ago in Motor Age is not practical, and I purchased a vulcanizer for use on my tires when needed.

Let us have a full expression of experience in using and repairing tires.—A. D. Carpenter.

GIVING THE RIGHT OF WAY

Farnhamville, Iowa—Editor Motor Age—I would like to learn through Motor Age the law regarding a motor car overtaking a farmer on the road. Is the farmer compelled to give part of the road if he can let the motor car pass?—F. A. Johnson.

No matter whether the vehicle be a horse-drawn rig or a motor car, it is the general custom for the one overtaken to give the right of way. Most of the states have such a law; in fact, one of the latest is Minnesota, whose code says: "On overtaking vehicles upon the public highways, the one so overtaking shall turn to left and the one overtaken shall turn to the right, thus giving one-half the road." Some states make it an offense to refuse to give the right of way and there are several instances of road hogs being punished for holding the road.

EXAMINING CHAUFFEURS

Wichita, Kas.—Editor Motor Age—The following may be of interest to some of the readers of Motor Age:

A new motor car ordinance went into effect in Wichita November 23, 1911, requiring all professional chauffeurs to pass a rigid technical examination.

The examining officer, C. N. Tucker, states that up to date one-third of the drivers who have taken the examination have failed to make a grade of 75 per cent, which is required to pass. It has been Mr. Tucker's aim to make this the most difficult examination of its kind in the United States and, according to the chauffeurs who have taken it, he has certainly succeeded. The highest mark made to date is 97 per cent, the next 90 per cent, and from that varying downward to 75 per cent. This examination is for chauffeurs only.

Owners who drive their cars are not required to qualify in any examination. They are only required to call at Mr. Tucker's office and prove that they are familiar with the provisions of the city speed ordinance. Some have failed to do this because of the impression that owners must pass a written technical examination the same as the professional drivers.

Following are a few of the questions and answers found in the examination papers of drivers who have failed to pass:

Notice to Correspondents

Motor Age has received communications addressed to the Readers' Clearing House from the following named towns and nom de plumes:

Shreveport, La.—Reader.
Grafton, Wis.—F. N.
Lawrence, Kans.—A Reader.
Jackson Center, O.—C. B.
Santa Barbara, Cal.—P. P. B.
Isabrook, N. Dak.—A Subscriber.
Detroit—O. W. P.
Des Moines, Ia.—D. C. G.
Townsend, Mont.—Subscriber.

These communications will be held until the proper signatures have been received. All communications written over a nom de plume must bear the writer's signature, otherwise such communication will not be answered. These signatures are wanted as proof of the authenticity of the inquiries.—Editor Motor Age.

Q.—“How many explosions to each revolution of the flywheel of a four-cylinder four-cycle motor?”

Ans.—“Four explosions of the motor and two of the flywheel.”

Q.—“Give some general precaution about the amount of oil to be used on a magneto.”

Ans.—“Use Needs foot oil. Best.”

Q.—“What kind of a lubricant should be used on valve-stems?”

Ans.—“Hard oil.”

Q.—“What is the difference between a high-tension and a low-tension magneto?”

Ans.—“Nothing like them on my car.”

Q.—“What is a permanent magnet?”

Ans.—“A magnet that is bolted to the engine.”

Q.—“Which of the two platinum points of a contact-breaker will pit?”

Ans.—“The softest one.”

Wichita is a city of over 61,000 population and boasts of over 1,000 cars, employing more than 200 chauffeurs. The professional examination embraces the most difficult question culled from examinations in New York, Chicago, St. Louis and other cities.—Val R. Cole.

MAY BE SHORT-CIRCUIT

Ogden, Ia.—Editor Motor Age—I have a little trouble with my M. D. Splitdorf magneto. One and 4 of the distributor brushes give a fat spark, while 2 and 3 give only a weak one at the distributor and sometimes I see a spark between the connection shaft.—H. H.

It has been suggested by the Chicago branch of the Splitdorf company that your trouble might be due to a short-circuit in the distributor; should this be the case, it would be advisable to remove the distributor from your magneto, pack it carefully and send it to the Chicago branch, which is the nearest, and where it will promptly be tested, repaired or a new distributor sent you.

LUBRICATING THROUGH GASOLINE

Union Bridge, Mo.—Editor Motor Age—Through the Readers' Clearing House please answer the following: Is it any benefit to a motor car engine to put lubrication oil in the same tank with the gasoline, and if so, what should the proportions be?—W. E. Perry.

If the lubricating system provided on the motor cannot be regulated to give the required amount of oil to the cylinders you might increase the supply thereto by mixing about a pint or so with every 5 gallons of gasoline put into the tank. Mixing of cylinder oil with gasoline is very common practice where two-cycle motors are used. In these motors in the majority of cases the fuel must first pass through the crank chamber so that the oil is well distributed over the working mechanisms therein as well as over the pistons and cylinder walls. A quart of cylinder oil to every 5 gallons of gasoline generally is the proportion used in two-cycle engine practice.

Replacement of Parts

John Weikert Thinks That Makers Should Pay Express and Cost of Installation When Material Is Defective and Blame Is Manufacturers'

George, Ia.—Editor Motor Age—I agree with W. F. Walter, of Burns, Kan., who says that the motor car manufacturer should stand the expense of repairs caused from defects. I have owned a car for 2 years and the first thing that gave away was the drive pinion which had a flaw in a gear tooth. The next was two parts of the clutch—the multiple-disk clutch being used—also an external brake shoe. The emergency brake lever came off, leaving a short stub in place of it.

All of these parts had flaws in them. They did not give out at once, but after steady strain was applied. For the parts I returned to the factory during the first year I received new parts, but the second year I was obliged to pay for them; also the express and the work of having them put on. Now at that rate, what will it cost every year hereafter for the upkeep of that car if those defects are in other parts in proportion to what it has been, and if there are minor defects such as poor fitting bolts that screw in the crankcase, etc.?

I have paid out about \$15 for those parts and express, not counting the expense of putting them on. Some of these manufacturers try out their cars in the Glidden tours and other contests, and their cars come through with clean scores. They advertise that car as perfect, reliable and least expensive, then why do they not keep them that way by giving the owner the parts for his car and also pay the transportation charges on them, as this expense would not have to be paid at all if every part were sound when put in a motor car?

One dealer has announced for 1912 that he will replace all parts that are defective in the car, and all parts that are defective during the life of the car. This is a great move toward selling them, and making owners satisfied. I hope other owners will get in line with Mr. Walter and myself on this.—John Weikert.

ACETYLENE'S EFFECT ON COPPER

Fayetteville, Ark.—Editor Motor Age—I recently noticed in a catalog that it was dangerous to use copper tubing for acetylene gas. Through the Readers' Clearing House will Motor Age tell me if this is true, and why? The original tubing on my car broke and I replaced it with copper tubing, with no bad results so far. What if any may I expect?—Charles Richardson.

Absolutely dry and pure acetylene gas has no action on dry, pure copper. This is a combination which is impossible in ordinary practice. Copper tubing is sel-

dom if ever absolutely clean and dry. Acetylene may be and is manufactured dry and commercially clean, but there always is a possibility of its getting some moisture in the tube, or getting into a tube which is already unclean. Impure acetylene, when coming in contact with copper, readily forms a compound known as copper acetalide. The formula for this varies somewhat, depending upon the conditions of formation, and generally is accepted as $C_2H_2Cu_2O$. Copper acetalide detonates by application of heat or shock. Experiments have been made with brass by the Prest-O-Lite company but a case never has been found where copper acetalide was formed with brass under commercial conditions. In using acetylene, rubber or brass tubing is recommended, and certain manufacturers claim they do everything they can to prevent the use of copper tubing.

CARBURETER QUERIES

Minneapolis, Kas.—Editor Motor Age—Through the Readers' Clearing House kindly answer the following inquiries:

1—How many designs of carbureters are there, and are there any designed without a float?

2—Why will a gasoline engine fire back in the carbureter on too lean a mixture?—O. E. Thorne.

1—There are thousands of carbureter designs, many of which have no floats.

2—Primarily, backfiring in a carbureter is due to a choking or want of gasoline mixture in the cylinders, or to poor timing or sticking open of an intake valve. Although it is an uncommon occurrence for valves to stick open, it sometimes occurs as a result of a bent valve stem. Many valve stems have been bent by workmen in prying up the valve spring for the purpose of removing the pin that secures the spring seat to the stem. When a popping in the carbureter takes place one should examine the valves and see that they are working properly and regularly before tackling the carbureter.

The most common cause of popping or backfiring in the carbureter is that of a weak mixture, due either to water in the carbureter or a shortage in the fuel supply. A weak mixture is a slow burning one, and it generally is claimed that a weak mixture burns so slowly that it is still burning and with some pressure when the inlet valve opens on the following stroke. Some, however, are of the opinion that under ordinary working conditions the mixture in the intake pipe of a motor is not in a condition to be explosive; but when it has been starved to a certain extent it becomes explosive and the backfiring takes place, it being maintained that at high speeds there always is a flame in the cylinders, but this flame is not sufficiently hot at the end of the exhaust stroke to ignite the incoming mixture of the next charge except when the previous charge also was a weak and slow-burning one.

Commercial Problems Discussed



The
Society of Automobile
Engineers

1451 Broad



Truck Lessons Business Men Are Learning



INCREASING THE UTILITY
OF COMMERCIAL CARS BY
AUXILIARY LOADING AND
UNLOADING DEVICES

By EDWARD W. CURTIS, Jr.
(Member of the Society)

WITH the constantly increasing sale of motor trucks the demand for auxiliary loading and unloading devices has developed a variety of contrivances, good, bad and indifferent, which are to be obtained readily all over the country. Expert discrimination, however, is generally required to correctly select and adapt the proper device to the work in hand.

As long as the horse held undisputed sway, auxiliary loading or unloading devices were looked upon merely as labor-saving helps and the consequent economy was only subconsciously considered. The hand winch, crane, grab bucket and hand truck were frequently found where the teamster or terminal was sufficiently wealthy to afford them, but were always looked upon more or less as luxuries. Such devices, however, reduced the manual labor and increased the availability of the truck, particularly in coal yards, stone yards, quarries and building excavations. In the last mentioned case it was not unusual to see teams driven into an excavation, loaded, and with more or less difficulty assisted out of the hole. In recent years, however, the teams generally load on the street at a chute or hopper, the material being elevated by means of a grab bucket or car and derrick. Most of the saving effected by this change of method is in manual labor, as at best the horse can do little more than under the older plan.

Singular as it may appear and contrary to horse practice, the great majority of motor-truck owners commence tabulating the performance of their trucks from the day they enter service. Mileage is the average man's unit for performance, and this in the motor truck, especially the

EDITOR'S NOTE—The following paper was prepared by Edward W. Curtis, Jr., and read by him at the meeting of the Society of Automobile Engineers this week

gasoline truck, on account of its high speed, is so far beyond horse performance that he is highly pleased with the results. Eventually he begins to accumulate operating costs; later his maintenance expense comes to his notice; and in some cases we know that the owner has persuaded himself that the motor truck is not only uneconomical, but extravagant, and consigns it and his investment to eternal damnation without giving it a fair trial by a competent jury.

Problems of Business

This is not the broad-minded business man, accustomed to working out the hard problems of business. The average business man discovering such a situation would first investigate the conditions himself and then call in the manufacturer of the machine for a proper solution of the trouble. Such a conference usually develops either excessive speed, supposedly demanded of the truck to show economy, or long periods of idle time, or both. In many cases the transportation engineer would straighten this out by rearranging the delivery service to conform to motor truck practice, rerouting, introducing necessary schedule changes, and possibly some

auxiliary means of loading and unloading to reduce the standing time of the truck to a minimum. When the last named is determined upon, a careful analysis of the operating conditions becomes necessary to properly determine what best to recommend.

Numerous devices are in common use throughout the country, and the following are likely to be found in any of the large cities:

Loading—The hopper, chute, pocket, *grab bucket, *crane, hand truck, portable cage, *winch.

Unloading — Dumping body, chute, *crane, hand truck, portable cage, *winch.

Those marked with a * can be power-operated. There are many modifications of all of these.

Great variety exists in dumping bodies, and there is good reason for this. Hard coal, for instance, can be readily dumped at an angle of 15 degrees, while soft coal—particularly if it has been carried any distance over rough pavements and had opportunity to pack—requires an angle of at least 45 degrees. The same conditions apply to gravel, dirt, sand, snow, garbage, ashes and crushed stone. This accounts in large measure for the variety of dump bodies offered.

There is, however, another consideration which is important; that is, ability to manipulate a motor truck in narrow alleys or congested places. This condition must indicate whether a side or end dump is required, whether the body must be elevated and dumped, or whether it may be tilted. The hopper body is hardly per-

missible on the gasoline chassis, but can be adapted easily to the electric chassis by arranging the battery forward and back of the hopper bottom.

There are so many well developed dumping bodies made by wagon manufacturers who specialize on this work, that a great variety of bodies may be obtained, independent of the chassis manufacturer, at very small cost.

Coal Yard Equipment

Practically every coal yard handling hard coal is equipped with coal pockets so that loading is speedily accomplished. Where soft coal is handled it is seldom possible to load the truck by this method, although the chute is in use in some places. The usual method is to shovel the coal out of a car into the truck or shovel it off the ground into the truck. The driver is expected to do this, and at times gets assistance from a fellow driver, but is usually required to repay this obligation in kind. This limits the operation of the truck to the capacity of the man, which is one of the factors in connection with motor truck operation that frequently spells failure for the truck.

A portable electric jib crane with a grab bucket has been especially designed to overcome this condition, and it is estimated that its operation will permit the motor truck to do three times the work it can do under present conditions. Nearly every sand-pit or pier is equipped with a grab bucket of some kind; the loading being either directly into the truck or through a large hopper, from which the truck is loaded. This same condition applies to gravel, broken stone, etc. All of the above methods of loading contemplate some form of dumping body to accomplish quick unloading.

The Quick-Loading Hopper

There is one other method of quick loading that is not widely known, but serves its purpose very well. It contemplates a device, made by the Quick-Loading Device Co., consisting of a steel hopper which can be hung over the side of a gondola

car. Men constantly shoveling into this permits the truck to run under it, dump it, and pull away. As many as six of these can be used on the side of a car and keep a pretty good fleet of trucks moving.

The crane has long been used for loading heavy materials, but now comes into use in smaller form for handling general merchandise from the ground to the truck and back to ground or platform. This contemplates the small jib crane mounted on the truck. Very little power is required to operate this, as the lift is usually short and the speed slow.

The portable electric crane fills a long-felt want in the handling of merchandise by motor trucks. Many of the commodities which are put up to the power wagon today are heavy, bulky and awkward to handle. Much time is consumed in getting these on and off the truck. The portable electric crane does this work with ease and dispatch, the saving in labor varying from two to eight men. This device gives the advantage of placing the load exactly where it is wanted, and no further movement is necessary until the next operation.

Portable Cage Proposition

Some use has been made of the portable cage or rack, but it has not been adopted as generally as it should be. In most cases where it is in use the actuating influence has been some insurance regulation prohibiting gasoline trucks inside a building, or some such equally non-commercial reason.

In the case of the department store, for instance, that is compelled to load its wagons at the store, much valuable time might be saved by loading, listing and routing the merchandise in a rack of this kind in the basement of the store, sliding the whole load into the wagon as soon as it comes up to the street.

The adaptability of this device in the case of the laundry, grocery, market, dyeing and cleaning establishments, printing houses and dozens of other lines would very

materially increase the serviceability of the truck.

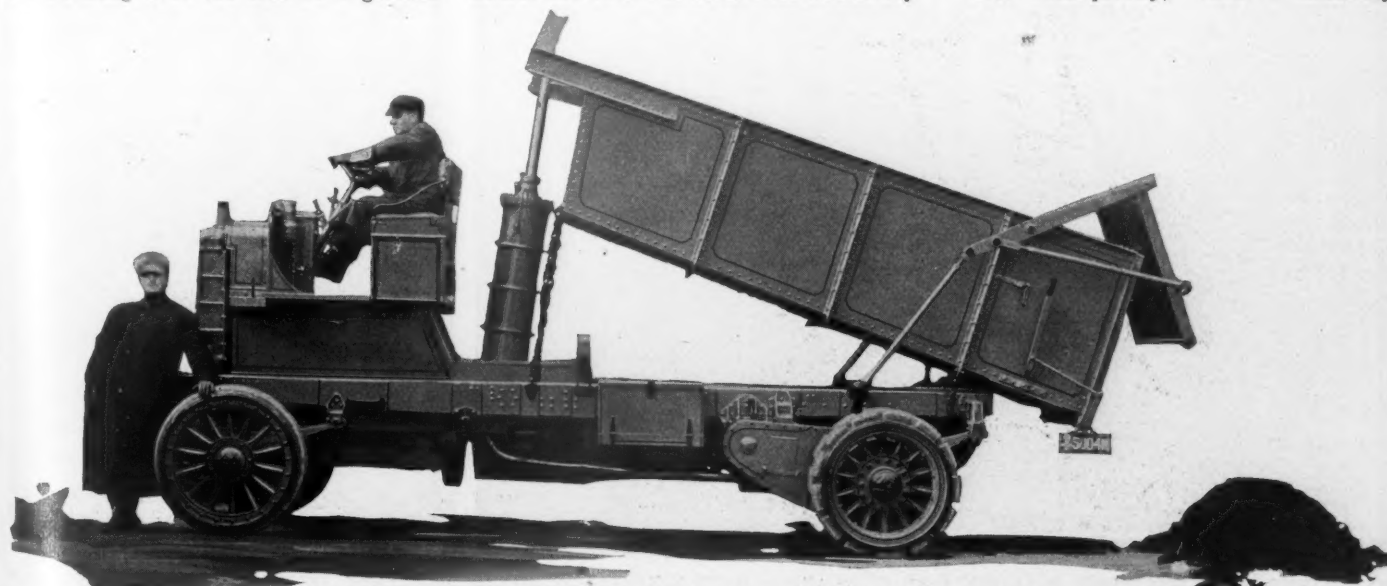
Similar economies may be obtained by the use of various kinds of warehouse and factory hand trucks, having these loaded in advance of the arrival of the motor truck and immediately pushed aboard. In this way a 5-ton load of miscellaneous merchandise is put on the truck by a large Chicago house in not to exceed 5 minutes, while putting on piece by piece would consume 30 to 45 minutes. The same economy obtains in unloading if the shipping clerk has used any discretion in packing the small trucks.

Use of the Winch

We must not overlook the winch, either hand or power-driven, the latter preferably, because it is much quicker and cheaper, as in pulling a heavy load the hand which requires two men, and sometimes more. The safe-mover is a good example of this, the power winch on whose truck is also used as a hoist. For loading and unloading heavy and awkward loads the power winch is indispensable. Cases of 700 pounds to 1,000 pounds can be handled well by two men, whereas without the winch five to six men would be required. Another point: A motor truck equipped with a power winch need never get stuck in the mud, as the operator can make fast to a convenient tree and pull himself out with the winch.

It is a question whether the greatest saving is to be accomplished on the loading or unloading end. In my judgment, the portable body in all its forms, where it can be used, represents the greatest economy for the motor truck. Men in many lines of business are familiar with this method of handling merchandise. The lumber yard uses duplicate lumber wagons, one loading while the other is delivering a load. Some coal companies follow this practice; and here and there we find similar adaptation of the idea. The closer to continuous operation the greater the efficiency.

Not infrequently, when a carefully



SAMPSON DUMP TRUCK WHICH IS OPERATED BY COMPRESSED AIR



HEWITT TRUCK WITH TILTING BODY

worked out plan of operation, contemplating the use of auxiliary loading or unloading devices, is submitted to a prospective purchaser, showing the possibilities of the motor truck, he radiates an entirely new idea, all his own, to the effect that he can do this same thing with his horse equipment. But there he is wrong.

Horse Must Rest

The horse cannot work continuously; he must have his periods of rest; lengthy loading and unloading give him just that opportunity. Moreover, the horse driver also needs his rest periods; he gets these while the horse is working. But the motor truck does not need the rest; and the driver, through the advantage of quick-loading and unloading devices, does not do as much work, and consequently does not need the same rest periods. The merchant will learn these points if he attempts to apply motor truck methods to horse equipment.

Next to the portable body the jib crane

represents the greatest utility, and it is remarkable that we do not see it in general use. The cost is trifling, the power consumed not of consequence, and the utility unlimited.

The dumping or tilting body always will be with us in as many forms as we have it today, or more.

When the use of auxiliary loading or unloading devices is indicated, we usually find an individual problem to solve. After determining the best contrivance for the commodity to be handled, it frequently becomes necessary to not only install this new machine, but rearrange or educate the different departments affected in order to accomplish the purpose intended. This must be accepted as a legitimate part of the work of the transportation engineer, and the success of the whole can be guaranteed only in this way. Careful study of the application of auxiliary loading and unloading devices will develop a quick perception of their utility. To get the

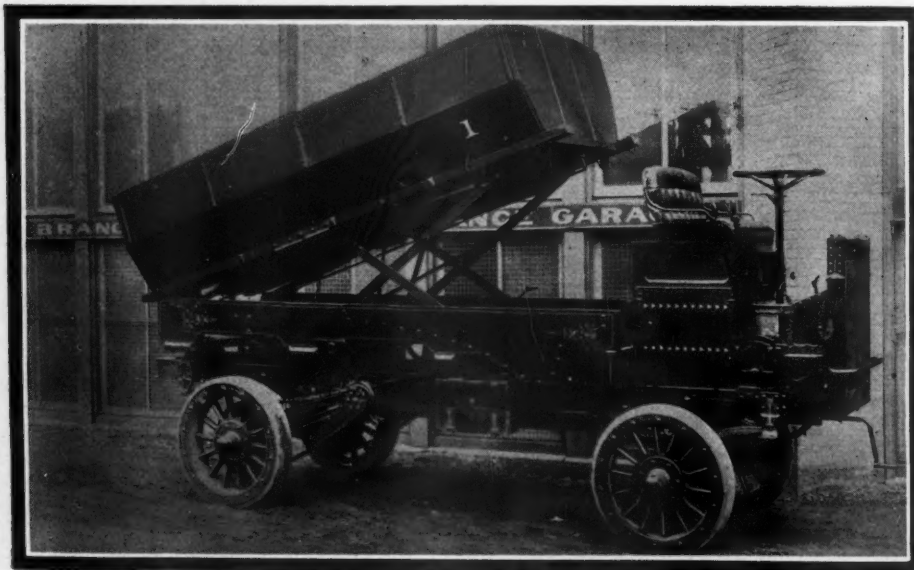
Mechanical Points

best results the individual work characteristics should be considered thoroughly by the transportation engineer; and after determining the best device for the particular case, great care should be exercised to assure its proper application by those who handle it. Otherwise the economy predicted may never obtain. It will be well to take into consideration the maximum daily ability of the driver, in order to determine an economical day's work for the truck.

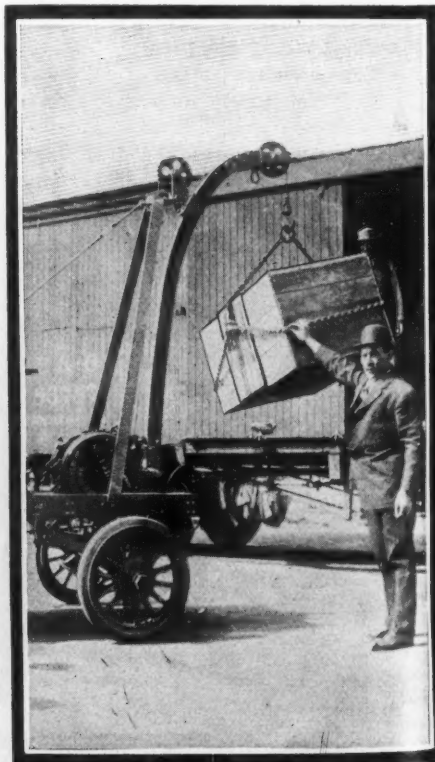
Increasing the Utility

The employment of new devices or new uses for them will unquestionably increase the utility and sale of motor trucks, and should be given all the publicity possible. There is an excellent opportunity for the ingenious engineer who will devise new means of loading or unloading motor truck merchandise. He should have in mind that the power plant of the truck may be utilized to good advantage; also that it is usually desirable to restrict the truck crew to one man, as the economy of the motor truck depends largely upon the saving effected in payroll. As in some other branches of the business, a freer distribution of knowledge would help the cause greatly, and is to be recommended.

Using our experience with these devices we will have a cumulative array of facts all of which will lead to the greater possibilities of motor truck use where now conditions seem to prohibit its successful operation. It is only by facts gained from this experience that the eventual universal adoption of the motor truck will come.



ELEVATING REAR DELIVERY COAL BODY AS IT IS APPLIED TO A RELIANCE MOTOR TRUCK CHASSIS



BATTERY TRUCK CRANE AT WORK LOADING BOX CAR

About Solid Tires

EDITOR'S NOTE—The following paper on "Mechanical Points in Connection with the Construction of Solid Tires" was read by Charles B. Whittlesey at the meeting of the Society of Automobile Engineers this week

SOLID motor tires can wear away and suffer as much from misuse as the pneumatic tires, and it has been said that lack of knowledge of it lies largely with the manufacturers by their never, to any extent, educating the users of their product to any appreciation of the tremendous difficulties that have been surmounted in arriving at the present state of efficiency—or of the endless amount of experimental work they have done, and the discouraging setbacks that they have had in their efforts to place at the disposal of the public the solid motor tire of today.

It is uncertain when or where solid tires were first used for wheels on vehicles. However, the use of such tires was not common until after the year 1881, when the Carmont tire was first used on hansom cabs on the streets of London. The tire adopted was Carmont's patent of 1881. In 1883—"A rubber tire held in rolled steel channels in a state of compression between converging flanges."

The Carmont tire was the first solid tire introduced in America, by the late Channing M. Britton, of the important New York carriage firm, Brewster & Co., for which Mr. Britton obtained the American right under the Carmont patent. Several tire manufacturers made tires for them.

The next practical advancement in the development of the solid tire made in



SAMPSON CRANK-UNLOADING LUMBER TRUCK

America was under the patent granted to A. W. Grant in 1896, later known as the Kelly-Springfield tire. This tire being seated in a rim channel with diverging sides there was no loss of resilience from the compression of any part of the rubber. The channels were not as deep as in the Carmont type, and a larger percentage of rubber was available for wear. The rubber body was held into place by means of circumferential wires running through the rubber and forming circles of smaller circumference than the rim flanges. Since the introduction of the Grant patent the use of solid rubber tires has increased steadily.

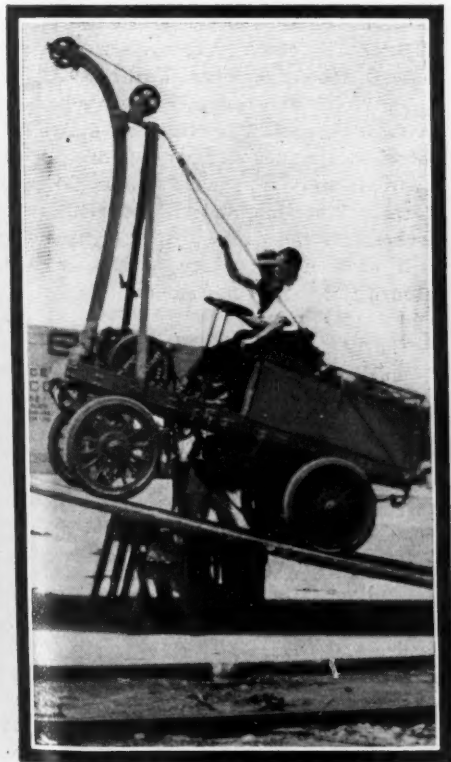
The Victor tire was similar in shape and construction to the Carmont and Grant tires, but the retaining wires were incased in leather to prevent their cutting the rubber. Later on, these wires were covered with specially woven fabric.

The next patented tire which was developed to any great extent was the side wire tire—a tire held into position by two endless circumferential wires sprung over the edges of the channel which en-

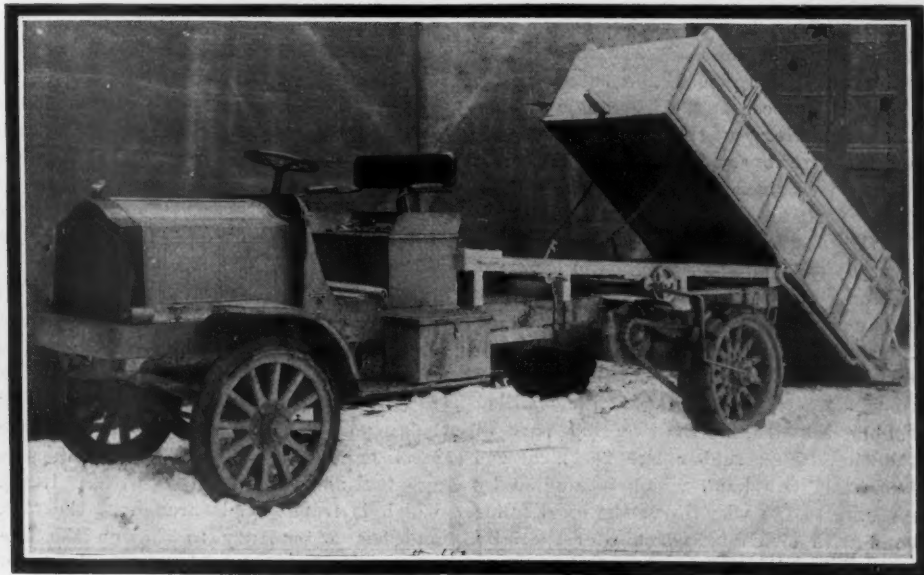
gaged the ends of embedded cross bars, thus holding the tire securely in the channel.

These and many other solid vehicle tires were made and used on cabs, carriages, etc., until the vehicles became motor driven. The weight and speed of the motor vehicles increased as well as their carrying capacity, which made this style of tire altogether too light to perform the work required of it. This condition brought about the invention of the solid motor tire—a tire vulcanized in circular endless form to fit the dimensions of a wheel. This type of tire has been brought out in different designs and types, such as flange, internal wire, side wire, hard rubber and metal base types; also the demountable.

Vehicle tires were made in oval shape, in cross-section from $\frac{3}{4}$ inch to 2 inches, advancing $\frac{1}{8}$ inch between sizes, and of compounded rubber which is forced through a tubing machine die, vulcanized in long molds with many cavities in the shape in which it has been designed. These tires were cut in lengths to fit the wheels



BATTERY TRUCK ELECTRIC CRANE GOING TO CAR PLATFORM



SHADBOLT DUMPING BODY WHICH SLIDES BACK BEFORE DUMPING AND WHICH IS A PATENTED DEVICE

and internal wires were inserted, of such lengths as to allow them to be spliced when applied to the wheel. The tires were then put into position in a channel on a wheel and held by mechanical devices while the ends of the wires were brazed together, the rubber having been pushed back, affording the wires sufficient space to allow this brazing process.

What is known as the cushion solid, which is perfectly round molded rubber in similar form, with a single hole through the center of same for retaining wires, was put into use about this time.

Solid Tire Construction

The construction of the solid motor tires that have been put on the market up to the present time is very similar in a general way. The rubber is forced through a die of a tubing machine, or built up from thin sheets of calendered stock in endless form to fit the exact dimensions of a wheel, on a particular style of base or retaining body of the tire, as designed by the different rubber manufacturers, according to their various ideas of efficiency, which have taken various forms, such as circumferential and side-retaining wires which are engaged over embedded cross wires, base of hard rubber in various forms, also of semi-hard rubber which can be molded into the tire, and more recently, the plain metal base types which are most successful.

The rubber portion of a solid motor tire is usually about $2\frac{3}{4}$ inches high, and varies in width according to its design. The tire is built so that when it is applied over the steel band of the felloe of the wheel it fits so snugly that it has to be forced on with a press specially designed for this purpose. This is done so that the tire will not creep circumferentially or laterally. When the tire is in position on the wheel, it is further secured by steel flanges bolted on each side of the wheel, also to prevent its creeping or working off the wheel.

The side wire motor tire is built in similar shape, but cross wires are inserted throughout the base of the tire at stated intervals. It is placed in a channel made for this purpose and side endless circumferential wires are applied on each side of the tire over the ends of the cross wires in the base of the tire, which holds it in position in the channel. The tire in the channel is applied to the wheel over a wood or steel band on the wheel.

Metal base tires are built up of compounded rubber in graduated consistencies from the hard base which forms their inside circumference next to the steel base to which it is vulcanized, to the resilient rubber that forms the wearing part of the tire. This rubber tire is vulcanized to a steel tire band which is applied by pressure to the wheel over the steel felloe band with either a hydraulic or specially built press. It requires from 60 to 90 tons pressure to apply these tires to a wheel and it has often been found necessary to

use more than 90 tons to remove tires so applied. This frictional contact makes it unnecessary to use any side flanges or other fastening.

The size, shape and dimensions of these types of tires are varied according to the designs of the manufacturers—no two being the same in any of these particulars. The service obtained from a given diameter and cross-section of these varied types of tires is as varied as the different types. The reasons for this can be attributed to the variation in the cubical contents of the cross-section of the tire, some designs having a much greater amount of rubber than others, and, therefore, the distribution of pressure over the different sizes of tires caused by the intensity of pressure per square inch brings a greater or lesser area of the tire in contact with the road, and as it is only that part of the solid rubber tire which is in contact with the road that is carrying the load, the tire with the greater area at this point performs the most satisfactory service.

The height of the rubber from the tire seat governs largely its elasticity and cushioning effect. A tire too high and narrow cannot stand up under a heavy load. It will weave from side to side. A tire worn down to a short distance from its non-extensible base loses its cushioning effect, and instead of the uneven conditions of the road being absorbed by the rubber, the tire is hard and transmits the shocks of bumping over it to the truck, and soon racks the truck and its motor, so that repairs become necessary.

Life of Tires

The life, strength and durability of the tire lie primarily within the compounded rubber of which it is made, and also its construction. Other conditions being equal, the tire made of the highest grade of rubber has the longest life and is the most resilient. Certain minerals are added to give it strength and durability, the quantities being varied according to the best judgment of the tire manufacturer. The proper size tires, which are dependent on the speed of the vehicle, applied on an electric truck driven at 8 or 10 miles per hour, will give greater mileage and much longer life than the same size tires on a gasoline truck driven from 12 to 15 miles per hour. The carrying of a ton at a speed of 10 miles per hour is a very different proposition to a tire than carrying the same amount of load at 15 miles per hour. Greater mileage can be obtained from tires run in a city devoid of grades.

Heat is the result of motion, and as the tire when in motion is continually being pounded between the road and the steel band of the wheel, it develops a greater amount of heat within itself, which is transmitted throughout the tire, and has a tendency to shorten the life of the compounded rubber. The heat developed in solid tires is much less in the fall and winter and spring of the year

owing to the cold roads, water, snow and ice. The number of months' service, as well as the mileage, that a solid tire may give is influenced by the same conditions; also by the weight the truck has to carry, the speed at which it is driven, and the nature of the country where it is used.

Driving-Wheel Diameter

Tires on wheels of greater diameter give longer and better service because of the greater area of rubber in contact with the road, as well as the fact that they do not have to travel so fast, and, therefore, do not generate as much heat, or deteriorate so rapidly. Neither do they travel so far and wear down as rapidly as the tires of smaller diameter. Actual experience has demonstrated that big wheels and tires are better on heavy grades in particular.

A solid motor tire for an electric truck must be made from a compounded rubber stock which is soft and most resilient. It must absorb the unevenness of the road, and resume its normal shape instantly, so as to lessen the traction of the vehicle. By the absorption of the shocks the consumption of electric current necessary to drive the truck is reduced to a minimum. This is largely dependent upon the resiliency of the compound, as well as the shape and size of the tire.

Many shape have been tried out for use on electric trucks, the standard oval shape prevailing. The corrugated or grooved treads present less road contact and assist in preventing skidding. Tires molded with these grooved treads and under-cut webbed sides afford an additional cushioning effect and are very successful on electric vehicles. The styles of tires used on electric vehicles are the same as those offered for other classes of vehicles. The size of the cross-section also affects the cushioning qualities of the solid motor tire on electric trucks, and a fair comparison cannot be drawn between two makes of tires, one of which is approximately 8 square inches in area for 4-inch section, and the other 10 square inches; for the one with the greater area will cushion and carry a greater load, absorb the shocks better, give longer life, and better service.

The life of the tire on electric vehicles is much longer than on gasoline machines—due partially to the low speed on the vehicle. From this class of vehicle being run at lower speed, it is handled with much more care than a high-speed truck; therefore, unknowingly, the tires receive more consideration.

Dual or Twin Tires

Dual or twin tires are applied on the rear wheels of trucks built to carry heavy loads, and subjected to the most severe strains, as it is known that when these dual tires are of the proper size they have greater sustaining power from the distribution of the load over the two tires on a single wheel. However, it is frequently demonstrated that one of the

twin tires gives out before the other—due to the fact that they have been driven over uneven roads where one of the tires on the wheel has had to carry the entire weight of its wheel a greater portion of the time and has given out from being overloaded.

Block Tires

Block tires are sections of solid tires vulcanized to steel plates or held in position by steel sectional frame fitting over the blocks of rubber with a wider base, or protruding wires in the base. This style of tire is used principally in duals on the rear wheels of the larger motor trucks subjected to most severe work. When driven rapidly, there is but little unevenness of motion felt from the tire being so constructed. The tire does not generate heat within itself as rapidly as a solid tire, owing to the fact that there is a space of an inch or more between the blocks which enables the rubber to yield more as it rolls up ahead under the traveling load. There being no communicating rubber between the blocks, the heat is confined in each block, which can be removed or replaced when it is injured or worn.

Block tires afford a very good non-skidding quality, and are excellent on soft roads, as there is but little slipping in wet, slippery places. In winter the spaces between the blocks pack with snow and ice, and the tire then loses its non-skidding and gripping effect. In all seasons the block tire picks up stones between the serrations, and these small stones embed themselves in the rubber, and should be

taken out with a strong screwdriver or any other similar tool before they have time to cut and work into the blocks of rubber.

The demountable solid motor tire has been too long delayed. The cost to the tire manufacturer, truck manufacturer, and the truck owner, of the delay of laying up the truck while the wheel is taken off and sent by express to the nearest branch or factory of the tire manufacturer and the old tire taken off and the new one applied is entirely too great. This expenditure of time and money will be avoided when the tires are all demountable and interchangeable like pneumatics for the pleasure car.

Tire Troubles

The greatest of solid motor tire troubles is the separation of the tread from the base of the tire before the tire has given satisfactory mileage. While some of the troubles have been due to the construction of the tires, the principal causes of trouble have been overload and overspeed. The truck manufacturers have not equipped their trucks with tires sufficient in size to do work demanded of them. The tendency is to underrate the overload that is going to be put on the truck soon after it is turned into service, just as in the case of pleasure cars until recently. Sufficient allowance has not been made for the portion of the load that is carried on the rear wheels, and trucks are daily equipped with undersize tires that will go to pieces within 2,000 miles instead of lasting 6,000 or 7,000 miles. Truck manufacturers will some day learn that the

reputation of their trucks for "eating up tires" costs them more than the difference in cost between undersized and proper size tires—a great many times over.

Standardization

This point leads us to the standardization of the tire and wheel dimensions and fastenings, which was accomplished by the Society of Automobile Engineers on July 15, 1911. What does this mean to the tire manufacturer? The expenditure of thousands of dollars to make an entirely new equipment in which to make his solid tires to conform with the new dimensions that the S. A. E. standardized. What does this mean to the wheel and truck manufacturers? A saving of thousands of dollars, instead of having to carry as many wheels in stock as there are varieties of tires to fill an order for any given size. The S. A. E. standardization has reduced this to one wheel for any make of tire for any given size.

The time will come when the cubical contents of the tire will be standardized, also the demountable fastening, so that the difference in service of any given size tire will be measured by the difference in the quality of the compounded rubber that it is made of by the different tire manufacturers.

The pneumatic and the solid motor tires have made the development of the pleasure car and motor truck possible, and yet they have been given less serious consideration than any other part of the equipment. A given amount of rubber and fabric can perform only a measured amount of work, the same as steel and other products.

Cost Accounts

TO the business man irrespective of his occupation the subject of cost accounts is of vital importance, but particularly to the manufacturer is it one of paramount importance because of the "complexities of modern commerce and the growth of the factory system." A. Clifford Ridgway in his "Cost Accounts," presents the principles of this subject in a comprehensive manner and at the same time aims to make it of practical value. In the 110 pages some of the subjects discussed are: The nature and purpose of cost accounts, system of paying wages, material consumed, etc.

In part II he takes up the phase of cost accounts for motor car manufacturers, and the system outlined in detail is one used by a motor car factory in the United Kingdom. "The system," the author says, "cannot be said to have been originated by any one man, rather it is a system that has evolved from small beginnings to its present highly organized efficiency. Neither can it be said to be cheap. As a matter of fact it is expensive, but that the expense is exceptionally productive is clearly proved from the firm's successive profit and loss accounts."

The book is profusely illustrated with



forms illustrating the different card systems and charts employed in the factory. Published by Sir Isaac Pitman & Sons, Ltd., London, Eng.

The Flying Girl

Considering all the possibilities the field of aviation opens to the romancer, "The Flying Girl" is a disappointment. Dealing with the inspirational atmosphere of the province of the sky, it would seem as if there would be promptings towards finer, keener thoughts than the base intrigues of common minds which forms so large a portion of the book, while the remainder is filled with the highly improbable, not to say impossible, exploits of a 17-year-old girl who, during her initial trip in the airship she and her brother have built, performs feats of flight beyond anything experienced bird men are capable of, and after successfully eluding a rival airship seeking to destroy her craft, in melodramatic fashion saves the villain from a

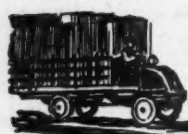
fatal fall. The Flying Girl by Edith Vandyne; Reilly & Britton Co. Price, \$1.

Guide to the Motor Car

"The Autocar Handbook," in its third edition, has been revised and amplified with many new illustrations. After a general introduction, and a chapter on the choice of a car, the different mechanisms that enter into the composition of the whole are discussed one by one and their various uses and functions described. Some of the chapter titles are: Internal combustion motor, ignition, lubrication, cooling, frame, care and management, involuntary stops, accessories, etc. Published by Iliffe & Sons, Ltd., London.

Stability in Aeroplanes

In a neat little volume of forty-six pages, with thirty-four illustrations, W. Le Maitre presents a plan for building an aeroplane on the basic principle that it "balance by reason of the natural forces embodied in it," instead of maintaining balance by means of the propellers. Working from this point he has built a machine for which is claimed the advantages of speed, stability, strength of construction and shock absorbing capacity. It is simple and logical. Natural Stability in Aeroplanes, published by E. & F. N. Spon, Ltd. Price, 37 cents.



The Realm of the Commercial Car



Report Growth of London Traffic

THE fourth annual report of the London traffic branch of the board of trade was issued on December 2. This report gives a large amount of statistical information, which shows the steady growth of mechanical traction, and the decline in the number of horse-drawn vehicles employed for public service.

In an accompanying table is given a record of the public service vehicles licensed from the year 1903 to the year 1910.

The total number of motor omnibuses licensed in 1910 was 2,303, as compared with 2,951 licensed in 1909. Of the total number 1,200 were motor and 1,103 were horse vehicles, which shows a reduction of 668 in the latter and an increase of twenty in the former as compared with the previous year, and in 1910 for the first time motor omnibuses were more numerous than horse vehicles.

It will be noticed that in 1907 the total number of omnibuses licensed was 3,762, and therefore there is a reduction of 1,459 between 1907 and 1910. This is due to the reduced competition, brought about by the amalgamation of several omnibus

companies, and by the greater mileage attained by the motor omnibus; as a matter of fact there was a considerable shortage of vehicles at the end of 1910, which now is rapidly being made good.

Between July, 1909, and September, 1910, the London General Omnibus Co. disposed of nearly 10,000 horses.

According to the latest information there are now about 1,600 motor omnibuses in operation. The motor omnibuses, which had come into general use in 1907, made but little progress in the following 3 years, but undoubtedly they have now entered on a period of progress and great prosperity.

The omnibus industry is in the hands of five companies, of which the London General Omnibus Co. is by far the largest. In July, 1911, it owned 1,400 gasoline omnibuses of different types, out of a total of 1,549. The company has its own factory, which is now turning out omnibuses at the rate of twenty a week. All the omnibuses owned by this company are gasoline driven, and its new B type, which is constructed at its own factory, shows a marked advance over all previous

patterns in economy of working, maintenance and freedom from vibration.

The other concerns owning motor omnibuses are the London Central Motor Omnibus Co., owning thirty-four gasoline vehicles; the Metropolitan Steam Omnibus Co., owning forty-seven steam vehicles of the Darraq-Serpollet type; the National Steam Car Co., owning thirty steam vehicles; Thomas Tilling, Ltd., owning thirty-six gasoline vehicles and two of the gasoline-electric type. One hundred of this new gasoline-electric type are now being constructed for this firm.

The report of the London General Omnibus Co. for the year ending September 30 shows that the gross receipts for the year amounted to \$9,003,198 for passenger traffic alone; the increase in the takings over the previous year being \$842,383. The working expenses, including administration, traffic and maintenance expenses, amount to \$6,971,439. After writing off the sum of \$1,178,531 for depreciation, a balance of \$1,037,940 is carried to profit and loss account, and further after paying dividends a balance of \$491,059 is carried forward to next year's account.

In view of the splendid results that have been obtained by this company some considerable competition is prophesied soon.

In July, 1911, the total length of streets traversed by omnibuses was 195 miles, and the total number of omnibus routes was eighty-three, the longest route being 15 miles. The daily run of a motor omnibus is about 110 miles, and the average distance carried for 2 cents is 1.8 miles in motor omnibuses, and 1.2 miles in horse omnibuses.

The great prosperity of the motor omnibus is partly attributable to the suppression of competition, and more particularly to improvements in construction and greater efficiency of organization and administration. The working expenses have been diminished steadily year by year. Up to the early part of 1908 they amounted to as much as 24 to 28 cents per omnibus mile, whereas now they have been reduced to an average of 17 cents. With regard to earnings, they vary considerably on different routes, and are more or less affected by weather conditions; however, the sum of 21 cents per omnibus mile may be considered to be an average.

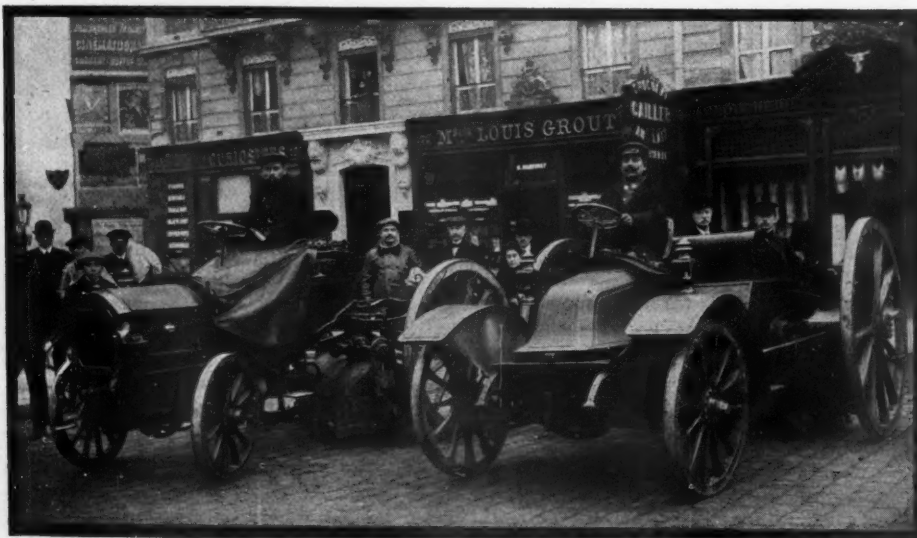
There is no direct tax on omnibuses for maintenance of roads, but by reason of the tax on gasoline each gasoline omnibus pays approximately \$218.70 per annum.

It is interesting to compare these figures with the rates paid by the London county council in connection with its tramway scheme, which amounts to \$476,280 per annum.

So far the competition of omnibuses has

RECORD OF LONDON PUBLIC SERVICE VEHICLES FROM 1903 TO 1910

Year	Hackney-Carriages—				Stage Carriages—				Tramway Cars—				Total of all Vehicles
	Four-wheeled—				Omnibuses—								
	Two-wheeled	Animal Mechan- ical	Total		Animal Mechan- ical	Total		Animal Mechan- ical	Total				
1903....	7,499	3,905	1	11,405	3,623	13	3,636	1,143	576	1,719	16,760		
1904....	7,137	3,920	2	11,059	3,551	31	3,582	928	810	1,738	16,379		
1905....	6,996	3,935	19	10,950	3,484	241	3,725	786	1,124	1,910	16,585		
1906....	6,648	3,844	96	10,588	2,964	783	3,747	905	1,396	2,301	16,636		
1907....	5,952	3,866	723	10,541	2,557	1,205	3,762	404	1,768	2,172	16,475		
1908....	4,826	3,649	2,805	11,280	2,155	1,133	3,288	323	2,003	2,326	16,894		
1909....	3,299	3,263	3,956	10,518	1,771	1,180	2,951	239	2,198	2,437	15,906		
1910....	2,003	2,721	6,397	11,121	1,103	1,200	2,303	120	2,411	2,531	15,955		



MOTOR CARS ARE BEING USED IN PLACE OF HORSES FOR PARIS STREET SWEEPING. THE ILLUSTRATION SHOWS A UNIC AND RENAULT

not affected the tramways to any great extent, but as soon as routes used exclusively by omnibuses are fully served, real competition with tramways will be inaugurated. Fares are identical on competitive routes, with the advantage that omnibuses can be run more frequently during the hours of greatest demand without any depreciable loss of speed. It is difficult to increase the tramway service beyond a certain limit without causing delay at crossings and junctions, and consequently reductions in point to point speed. A comparison of the point to point speed with omnibuses and tramways is interesting, and the following are the averages of a number of observations recently taken:

Route 1. Distance, 2.7 miles—Average speed of motor omnibus, 9.55 miles per hour. Average speed of tram cars, 8.74 miles per hour.
Route 2. Distance, 2.6 miles—Average speed of motor omnibus, 8.83 miles per hour. Average speed of tram cars, 8.35 miles per hour.
Route 3. Distance, 1.3 miles—Average speed of motor omnibus, 10.05 miles per hour. Average speed of tram cars, 9.74 miles per hour.
Route 4. Distance, 1.4 miles—Average speed of motor omnibus, 10.13 miles per hour. Average speed of tram cars, 8.16 miles per hour.

The London General Omnibus Co. requires about 30,000 gallons of gasoline per day to maintain a full service.

The total number of cabs licensed in 1910 was 11,121. The figures show the rapid progress made by the motor vehicle in the displacement of the horse vehicle.

In 1909 the number of two-wheeled horse cabs diminished by 1,527, while the motor vehicles increased by 1,151. In 1910 there was a further reduction of 1,296 of the former, and an increase of 2,441 of the latter. At the present rate of progress the two-wheeled horse cabs will disappear before the end of 1912. The four-wheeled horse cabs disappear at a less rapid rate, for the reason that they are largely used for the conveyance of railway passengers' luggage.

It has taken 10 years to establish the motor cab industry; motor cabs were first employed in London in 1899, and twenty-four electric cabs were placed in service. It was not, however, until 1903 that cabs propelled by internal combustion engines were introduced, but these first cabs were withdrawn in the following year. In 1905 four motor cab companies commenced business, and were followed in 1906 by two more, one of which used a model which still survives. But motor cabs did not come into general use until 1907, when 723, practically all of foreign manufacture, were licensed.

The present cabs are mainly in the hands of companies which own a large number, and comparatively few are owned by small proprietors or individual owners.

The demand for motor cabs is greater than that of horse cabs, for the reason that the former are often required to travel long distances, and are not as horse cabs confined to a limited area. They are largely used by people who wish to be independent of railways, who use the motor cab to attend race meetings, etc., and they are often employed in the summer for excursions to the sea and riverside resorts.



TWO OF NEW DE DIONS WITH DISTINCTIVE RADIATOR DESIGN USED IN PARIS MAIL SERVICE AT THE PRESENT TIME

Motor Postal Service in City of Paris

AFTER showing the world how not to run a motor car service, the Paris postal authorities have set out with a clean sheet and great expectations. For several years the postal department has contracted for the carrying of mails from the railroad depots to the main office, and from headquarters to sub-offices, by means of motor vans. The work was paid on a mileage basis, but rates were so low, speed was so high, and the management was so unsatisfactory that the company recently in charge went bankrupt rather than continue. It was such an unsatisfactory business that the contractor preferred to abandon his entire outfit and disappear. The postal authorities had to step in and attempt to run the vans themselves, but they found such a broken-down fleet that it was only with outside help from the taxicab companies that the Paris mails could be transported. This unsatisfactory temporary service existed for several months, until a few days ago a new company stepped in and took charge of the entire business.

To collect and deliver all Paris mail matter, it is estimated that 141 closed vans must travel an annual distance of 1,924,000 miles. Three types are provided for: Type A having a load capacity of 1,763 pounds and body area of 21 cubic feet; type B, carrying 2,645 pounds, with an area of 32 square feet, and type C, carrying 3,968 pounds, with a body area of 43 cubic feet. The contract calls for sixty-four A type, sixty-one B type and sixteen C type constantly in service. Thus the total number of vans operated by the company will not be fewer than 160, after allowance has been made for those under repair. Estimating on 300 working days a year, the daily mileage of each van will be about 45. The contract stipulates that the minimum average speed shall be 9.3 miles an hour for the shortest journeys. Previously

attempts have been made to maintain a higher speed, but they have met with complete failure. Indeed, the high average insisted on under the old contract was one of the main reasons of its breakdown. A traffic obstruction lasting 1 minute made it impossible for a driver to make his journey on time without taking chances; he took them to avoid a fine, and a costly accident would result. Such reckless driving was indulged in by the harrassed mail men that their vans became the pests of the city, and pests against which the police were powerless, for to apply the law would have meant the breakdown of a public service.

The new fleet of mail vans have been supplied to the operating company by the de Dion-Bouton and the Delahaye factories. The de Dion concern has furnished all the big vehicles, while the smaller ones have come in equal numbers from the two factories. The chassis are of the standard type, with motor in front under a bonnet. It is worth noting that the de Dion-Bouton company has abandoned the standard type of radiator for the Goudard & Mennesson, as used on the Paris omnibuses. This is a type consisting of coils of plain copper tubes forming rings, with a fan in the center; the change also entails a modification in the shape of the bonnet. Pneumatic tires, which were first employed in the lighter mail vans, have been abandoned entirely for the new service. The heavy and medium vans have twin solids in the rear and single solids in front, while some of the lighter Delahaye vehicles make use of a patented cushion tire known as the Ducasble. In several cases, too, spiral spring shock absorbers are fitted. An ordinary van body with extension top and high dash is employed. The rear doors are so locked that it is impossible to open them from the outside without the driver first releasing a lock.



From the Four Winds



GROWTH of Louisville Club—During the past year 170 new members were added to the Louisville Automobile Club's roster. This brings the total membership over the 500 mark.

Pennsylvanians Slow Registering—So far the Pennsylvania state highway department has received \$87,500 from the owners of motor vehicles, but only 10,000 license tags have been issued.

Kentucky Collections—There has been collected on the motor car desk and turned into the treasury, under the motor vehicle law passed by the general assembly of Kentucky, from June 14, 1910, the day the law went into effect, to June 13, 1911, the sum of \$23,340; and from June 14, 1911, to December 30, 1911, the sum of \$21,985, making a total from June 14, 1910, to December 30, 1911, of \$45,325.50.

Bell on Mile Post—As a mile post the sign of the mission bell has been adopted by each county in the state of California. The post has the number of miles to the next town and proper indications printed on a metal sign below the bell which is so arranged that it can swing free and ring musically with the wind. There are 121 of these artistic mission bell mile posts set upon the king's highway.

Suggests Road Improvements—The board of directors of the Automobile Club of Syracuse has decided in special meeting to favor the abolition of toll roads in Onondaga county, New York, but judge it wise not to urge legislative action at present. The club committee on good roads will take up with individual city supervisors the matter of good roads, asking them to avoid the building of short pieces of road "that start somewhere and lead nowhere." The club also asks the state highway commission to eliminate from the proposed state trunk line leading north from Syracuse the 6-mile stretch between Syracuse and Cicero and to substitute the same mileage between this city and Tully.

Activity in South Dakota—The Deadwood Commercial Club has issued a call to commercial bodies in South Dakota and Wyoming towns, to send delegates to a convention to be held at Deadwood, S. D., February 2-3, to make arrangements to connect South Dakota and adjoining states with the transcontinental roadway from New York to the Pacific coast. In South Dakota, fifty-one towns are included in this list, and in Wyoming forty-one. The governors of seven states, Wyoming, South Dakota, North Dakota, Minnesota, Iowa, Nebraska, and Colorado, have been invited to be present. The invitation emphasizes the value of this road to the farmer and to all classes of people. Lawrence county has been doing a great deal itself in good

road work. It is now spending \$100,000 in making the finest possible mountain highways, the state engineers recently inspecting and indorsing them.

Wants Graded Licenses—The Minneapolis Motor Drivers' Club will ask the legislature to change the motor car law to provide for graded licenses. The members severely criticize the present system of examination.

Prisoners For Hire—Prisoners in the county jail at Pontiac, Mich., will be hired out to the different villages and townships in the county. The men will be sent out under guards to work on the streets or roads.

Milwaukee Improvement Contemplated—An asphalt highway from the Northwestern depot in the heart of Milwaukee, Wis., along the shore of Lake Michigan to Lake Park, 3 miles distant, is proposed by the department of public works of Milwaukee for 1912. It is the intention to use the present stretches of macadam and surface them with sheet asphalt, connecting them with new asphalt pavement and making a 3-mile drive of asphalt. The project is part of the lake shore drive upon which Milwaukee has been working for ten years.

Alaska's Roads—Slowly the building of roads in Alaska proceeds under the direction of the war department. The annual report of Secretary Henry L. Stimson shows that there are now 800 miles of wagon roads complete in that territory. Winter sled roads aggregate 534 miles; trails 1,107 miles and trails temporarily staked for winter use, 450 miles. From the report of the road commissioners it appears that during the season of 1911 there were built 41 miles of wagon roads, 27 miles of winter sled roads and 445 miles of trails, and in addition many miles of trails were staked temporarily for winter use.

Perpetual Road Exposition—Ohio soon is to have a perpetual highway exposition. It will be located in the new Hartman building, Columbus, Ohio, and the large room which will be devoted to the purpose will be one of a suite now occupied by the state highway department. It is expected that with the show in order, council committees from all over the state will visit Columbus to study the exhibits and hear lectures which department attaches will give on request. Arrangements are under way for makers of paving brick, cement and macadam; producers of curbing and crushed stone, in fact, all firms engaged in furnishing road or street improvement supplies, to place exhibits in the permanent exposition. The room

and its exhibits will afford a liberal education, especially to those smaller cities which for the first time begin active work in street improvement.

Motor Hurts Buggy Sales—Dealers at the Minnesota Retail Implement Dealers' Association convention report the motor car cutting heavily into the sale of high-priced buggies, but that medium-priced rigs hold their own.

Another Chauffeurs' Club—As a result of a visit of officials of the Chauffeurs' Federation of America, a chauffeurs' club has been organized in Springfield, Mass., with 104 members. The following have been elected: Charles Sampson, president; Ralph Prouty, first vice-president.

Signboarding Oregon—The movement for adequate state-wide highway sign posting in Oregon is being revived by the Portland Automobile Club, and there is every assurance of the movement being successful. John S. Beall and E. Henry Wemme, directors of the club, appointed a committee to take the matter in hand, have decided that a board sign 24 inches by 8 inches by 1 inch thick, covered with waterproof paint and the lettering in black on a white background, would best serve the purpose.

Means Madison-Milwaukee Road—It is expected that with state aid for good roads works now at hand in Wisconsin, the Madison-Milwaukee boulevard project will be started and the parkway between the metropolis and state capital will become a fact in less than 3 years. All of the counties through which the projected parkway will pass have taken up the enterprise and will build the connecting links. The start will be made at Milwaukee, and Racine county will take up the work where Milwaukee county leaves off.

Ohio's Annual Report—The report of the Ohio state motor car department for the calendar year ending December 31, 1911, which has been filed by Registrar J. A. Shearer, shows 45,788 cars to have been registered during the year. Of that number all but seventy-two are owned by persons residing in Ohio. Cuyahoga county, which contains the city of Cleveland, has the largest number of cars registered with 8,383. Hamilton county is second with 3,420 cars. This county contains the city of Cincinnati. Franklin county, containing the city of Columbus, is third with 2,837. Lucas county, containing the city of Toledo, is fourth with 2,178. Montgomery county, containing the city of Dayton, is fifth, 1,723. Summitt county, containing the city of Akron, is sixth with 1,330. Stark county, containing the city of Canton, is seventh with 1,230. Mahon-

ing county, containing the city of Youngstown, is eighth with 1,220. Vinton county has the fewest cars, with but eight to its credit.

New Tacoma Emblem—The emblem of the Automobile Club of Tacoma will contain a reproduction of Mount Tacoma, enameled in white with the letters "T. A. C." embossed in brass and the word "Tacoma" spelled out in letters raised on a green enameled background. Membership cards will be signed by both the chief of police of Tacoma and chief of police of Seattle provided reciprocal relations can be entered into with the two cities.

Form Tri-City Association—The dealers of Davenport, Rock Island and Moline have organized in the Tri-city Automobile Dealers' Association, adopting constitution and by-laws and selecting G. M. Burmeister, of the Iowa Auto and Tire Co., as temporary chairman. This association will in future manage the annual Davenport show, which up to the present has been in charge of the Davenport Automobile Club, composed in large part of car owners rather than dealers. The association is incorporated for 1,000, each member to be the holder of one share of stock.

Cars in Saskatchewan Country—If any proof were needed of the popularity and the growing demand for the motor car in the west it would be found in the figures recently published for the province of Saskatchewan, which show that in the neighborhood of 1,400 licenses have been issued in the province. Of these about 600 are held in the four cities, Saskatoon, Regina, Moose Jaw and Prince Albert; Moose Jaw heading the list with 236. The remainder of the number are scattered at various points throughout the province.

After Indianapolis-Louisville Road—Letters from Rush C. Watkins, president of the Louisville Automobile Club, to the New Albany Automobile Club and also to Governor Marshall, urging the speedy construction of the proposed road through Indiana, thus creating a route from north to south through Indianapolis and Louisville before a route is constructed by way of Cincinnati, were read at the annual banquet of the New Albany Automobile Club at New Albany, Md. The movement for an improved road through southern Indiana was started following the reliability run of the Chicago Motor Club a few months ago. The opinions of the officers of the Chicago organization, who were in charge of the tour, had considerable effect upon this Louisville club and caused renewed energy in the direction of improved highways. The proposed route through Indiana extends over the New Albany and Paoli pike to Paoli, thence to French Lick and West Baden Springs, thence to Orleans, Bedford, and Columbus, and thence to Indianapolis. This route is 35 miles longer than a direct route from New Albany to Indianapolis,

but it is considered more feasible than the direct route on account of the desire of tourists to visit French Lick and West Baden Springs.

Another Motor Concession—Motor cars are now permitted on the grounds of the Huntington estate near Los Angeles, Cal. The drive is one of the most picturesque in the country. One may see plants too rare for the ordinary millionaire's garden. Trees more than 500 years old grace the beautiful garden, and the motor road through the grounds presents a most picturesque sight.

Milwaukee's Summer Plans—The Milwaukee Automobile Club will, during the coming touring season, conduct at least one reliability tour for amateurs and a run in which amateurs will be pitted against professionals, or dealers. A number of the invitations received from clubs in Wisconsin and northern Illinois during the last 2 or 3 years will be accepted and a party will be made up to tour to these cities.

Cost of Davis Highway—According to an estimate made by James S. Caldwell, a civil engineer of Paducah, Ky., who made the survey, the Jefferson Davis highway will cost \$750,000. The plans, specifications and maps for the proposed road are nearly completed. Two hundred and thirty-seven miles of the route will need complete reconstruction. The remaining 87 miles are modern pike roads and will require but little work.

Physicians' Club Elects—The annual election and meeting of the Physicians' Motor Club were held January 10 at the Hotel Walton, Philadelphia, resulting in the selection of the following to serve for the ensuing year: President, Dr. S. Leon Gans; first vice-president, Dr. L. Webster Fox; second vice-president, Dr. John J. Robrecht; third vice-president, Dr. Charles A. E. Codman; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Louis H. Adler, Jr.; solicitor, G. Douglass Bartlett; board of directors—To serve 4 years, Dr. P. J. Ellinger and Dr. E. S. Saylor; to serve 3 years, Dr. Ellwood P. Kirby and Dr.

Charles Haig, Jr.; to serve 2 years, Dr. Sylvester J. Beehn and Dr. H. Augustus Wilson; to serve 1 year, Dr. Ernest W. Kelly and Dr. Francis J. Kelly.

Syracuse Club's Growth—The Automobile Club of Syracuse, of Syracuse, N. Y., points to a successful year. The sign board and good roads committee reports that more than 300 danger and route signs were put up during 1911. The club took the first steps in an effective campaign to stop the evils of speeding through the city streets. The organization brought about a needed cutting of red tape at Albany, resulting in number plates going direct to clubs instead of following the usual procedure.

Farmers Becoming Friendly—That the farmer is fast losing his enmity against the motor car and that there is a change in sentiment, is proven by the verdict of a jury of twelve farmers in a damage suit at Marshfield, Wis., last week. August Arndt, a farmer, sued Dr. K. W. Doege for \$10,000 damages as the result of an accident due, he claims, to frightening of his team by Dr. Doege's car. The jury returned a verdict in favor of the physician, although the entire twelve jurymen were farmers.

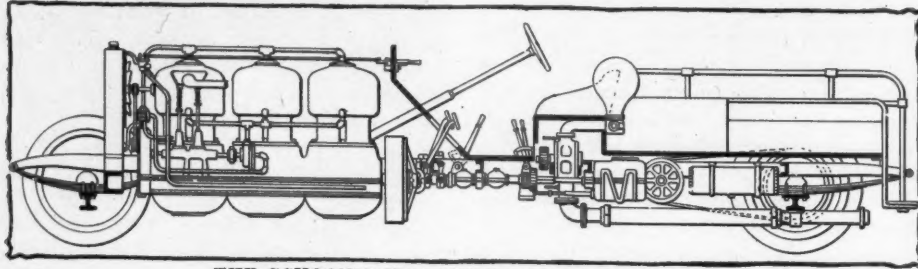
Michigan's Road Report—Since the Michigan highway department was established July 1, 1905, there have been built in this state with the aid of the state reward 850 miles of good roads. This is according to a statement made by Highway Commissioner H. T. Ely to Governor Osborn. On this mileage there has been paid in state rewards \$585,290. Of the total mileage constructed, 514 miles were gravel road and 513 miles macadam. This is not all, however, for as a result of recent activities there are 600 miles in course of construction, or just completed on which rewards are pending. During the year ending June 30, 1911, there were 304 miles constructed of which 216 miles were gravel road, the form of highway construction which seems to be most popular in this state and on which the state has paid \$193,876 in rewards.



NEW COLE ROADSTER THAT CARRIES FOUR PERSONS ABREAST



Current Motor Car Patents



THE SCHOONMAKER MOTOR CAR FIRE ENGINE

SCHOONMAKER Motor Fire Engine—

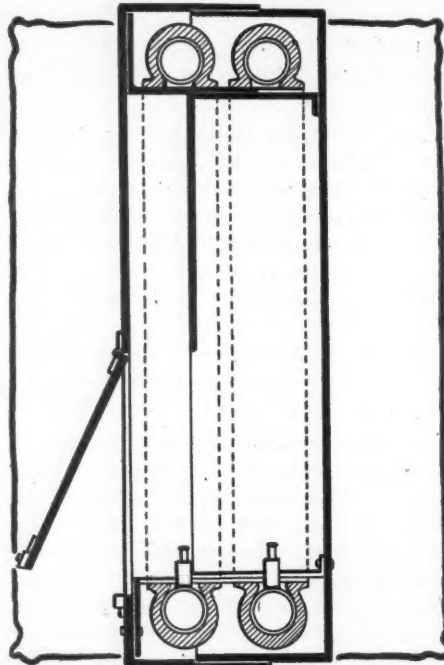
No. 1,013,622, dated January 2; to James M. Schoonmaker, Jr., Pittsburgh, Pa.

—This patent pertains to a motor car fire engine having in combination an engine, engine shaft driven thereby, a flywheel on the shaft, a second shaft, a clutch member on the second shaft adapted to engage the flywheel, a slidable gear wheel on the shaft, a pump, a pump shaft, a gear on the pump shaft with which the first mentioned gear is adapted to engage, slides, rock shafts, connections between the rock shafts and the clutch member and sliding gear, a lever, and connections between the lever and the slides whereby the clutch member and sliding gear may be operated independent of each other.

Unit Compartment Dumping Box—No. 1,013,789, dated January 2; to William W. Longest, Louisville, Ky.—This patent relates to a dumping vehicle in combination with a wheel frame, comprising a body unit disposed transversely over the frame, means constituting a central pivotal support for the body unit, a prop at each side of the central support of the body member, each prop comprising two members and a hinge pin connecting the members, rods attached to the wheel frame, and clamps carried by the rods and adapted to be removably secured to the hinge pins of the props.

Pfahl Liquid Supply Indicator—No. 1,013,309, dated Jan. 2; to Frederick L. Pfahl, Akron, O.—This patent pertains to an indicator which might be used for showing the supply of fuel in the gravity gasoline tank of a motor vehicle. It comprises a cylinder, a dial supporting plate closing the upper end of it, a tube secured to and

depending from this plate, a float slidably located in the tube, means for preventing rotation of the float, a shaft journaled in the supporting plate and lower end of the



PRATZNER COMBINED TIRE HOLDER

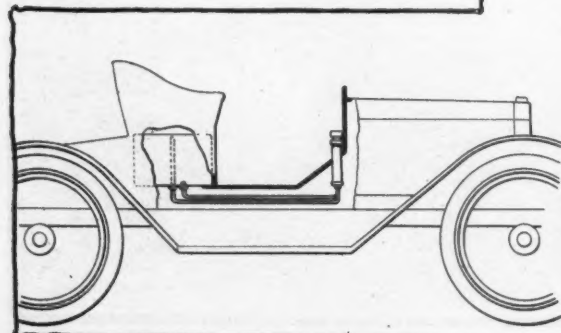
tube and passing through the float and co-operating therewith, whereby the shaft is rotated during the vertical travel of the float, a pointer carried by the upper projector of the shaft, a transparent cover for the cylinder, a liquid fuel tank, a pipe

connecting the bottom of the latter with the bottom of the cylinder, and an air pipe leading from the top of the tank and communicating with the top of the cylinder.

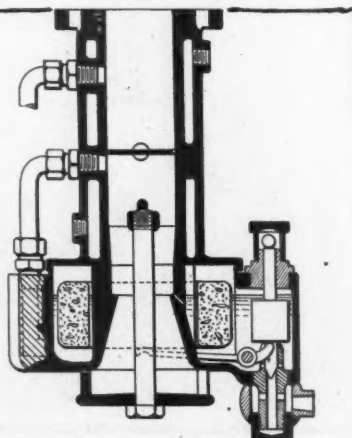
Weiland Carbureter—No. 1,013,708, dated January 2; to Alfred Weiland, Reading, Pa.—The carbureter to which this patent relates comprises a casing having a mixture outlet, a throttle valve controlling this outlet, a mixing chamber in the casing having air and fluid fuel inlets, a reservoir for the fluid fuel secured to the casing, a fluid fuel supply, a plurality of auxiliary reservoirs adjacent the main reservoir and communicating therewith, air inlets for the auxiliary reservoirs and means to convey an auxiliary explosive mixture from each of these auxiliary reservoirs, the respective means of each auxiliary reservoir communicating with the mixing chamber on opposite sides of the throttle valve.

Combined Tire Holder and Trunk—No. 1,013,564, dated January 2; to Jules V. Pratzner, New Haven, Conn.—This patent covers a tire holder and trunk consisting of a casing having a concentric band within it, a plate extending over the lower portion of the band forming a receptacle, combined with a cover adapted to fit telescopically over the casing, the cover formed with a concentric band adapted to fit telescopically over the band in the casing, this cover also formed with a segmental opening within the circumference of the band, and a lid hinged to the cover adapted to close this opening.

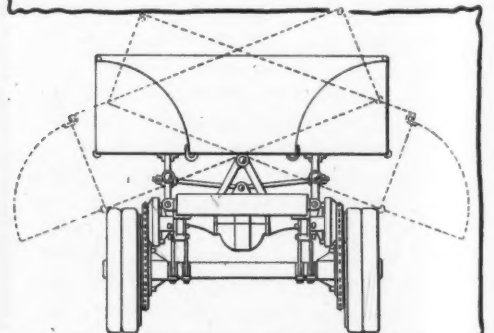
Foster Ball Bearing —No. 1,013,151, dated January 2, to John F. Foster, Kansas City, Kan.—This patent covers a ball bearing, comprising a pair of concentrically arranged collars spaced apart, the inner one having a circular channel in its periphery, and the outer one a circular channel in its inner face, the two channels conjointly forming a ball race; balls are arranged in this ball race, a spacing bar arranged between adjacent balls, and cups arranged between each bar and pair of balls and engaging the latter and provided with transversely bifurcated stems receiving the ends of the bar.



PFALH LIQUID SUPPLY INDICATOR



WEILAND CARBURETER



UNIT COMPARTMENT DUMPING BOX



The Motor Car Repair Shop

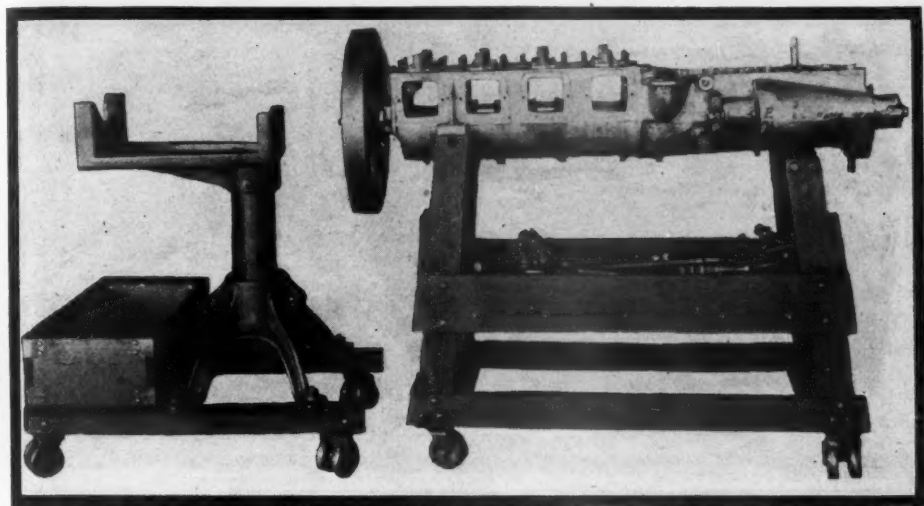


FIG. 1—TWO TYPES OF MOTOR STANDS USED IN MAXWELL REPAIRSHOP, CHICAGO

ANYTHING in the way of repair shop or garage equipment that facilitates the operations of the workmen, adds to the efficiency of the shop or garage. It therefore should be the endeavor of every motor car dealer to equip his shop or garage with the best conveniences obtainable. By best conveniences is not meant the most expensive, for often a very cheap article of repair shop furniture may give far better service than a very much more expensive but less adaptable one. It is the object of *Motor Age* to enlighten its readers as to the best features of all the garages and shops that its representatives have the good fortune to visit, so that they may choose therefrom and choose wisely in the fitting up or improvement of their own similar departments. In Fig. 1 two of the motor stands in use in the Maxwell agency, Chicago, are shown. One is a cast iron one adjustably mounted on a framework of wood, with a box carried by the wooden rails into which nuts, bolts, tools, or motor parts may be conveniently carried or deposited during the time the motor is being assembled or disassembled. By rendering the stand adjustable for height it is possible for the workman to adjust the mechanism so that he will not have to lean over into an uncomfortable position during the operations that he must perform thereon. Thus the work becomes less tiresome and better workmanship is obtained. It will be noted that the stand is mounted on castors; this makes the stand useful as a means of transporting motors about the shop, and makes it possible for the mechanism to be conveniently moved about at any moment without considerable trouble or waste of time. The cast iron stand is designed for the small two-cylinder power plant. For the larger four-cylinder power plants the larger stand at the right is

employed. This is of wood, is not an expensive construction, and is not unlike other stands that have been illustrated in these columns. An excellent feature of this stand, however, that is absent in many of the motor stands used throughout the country, is that of the shelf or box provided for tools and motor parts. This is an excellent feature and worthy of being incorporated in other similar features of repair shop equipment.

The Thomas Repair Department

The machine tool section of the repair department of the Thomas branch in Chicago is one of the most neatly arranged in the city, as may be seen from the illustration, Fig. 2. There is an emery

grinder E, which is not only conveniently situated, but also arranged so that the emery dust is not thrown upon the working mechanisms of the machine tools. The other articles of the equipment include a large drill press D, a smaller high speed drill press P, a small lathe G and a large lathe L, a milling machine M, and at the opposite side of the room a portable crane C, and a forge F. The general arrangement of these tools is an excellent one. The lathes are arranged near the windows where the workmen have the advantages of good light during the day time whilst during the time that advantage cannot be taken of the day light a good light may be obtained from the electric lamps conveniently arranged directly above the tools. The milling machine at the right also occupies a position where the advantages of day light may be appreciated. The large portable crane at the left is an extremely useful article of repairshop equipment, which is used chiefly for lifting motors and gearsets from chassis and transporting them about the shop. It also can be used as a jack for lifting up the front or rear ends of cars when it is desired to remove the axle or replace springs, etc. By keeping the equipment at one end of the shop in this way a single main shaft and only a few countershafts are required. The shop is on the top floor of a four-story building, remote from the garage and service department, which are on the ground floor. Attention is called to the window near the ceiling which admits the north light.



FIG. 2—SHOWING ARRAY OF MACHINE TOOLS IN THOMAS BRANCH, CHICAGO

CAR Factory on Coast—The Aamalgamated Motors Co. has established a factory at Santa Ana, Cal., and expects to make 1,000 pleasure cars and light deliveries this season.

Files Croxton Statement—P. L. McLain, of Canton, O., trustee of the estate of the Croxton-Keeton Motor Co., bankrupt, filed his second partial account. The account showed a balance on hand of \$58,505.60. A dividend of 10 per cent was declared.

Cadillac Bore Unchanged—To correct an error which occurred in Motor Age recently regarding an increase in the bore of the Cadillac motor for 1912, the following facts are given: The bore and stroke for 1912 is $4\frac{1}{2}$ by $4\frac{1}{2}$; it was the same in 1911; in 1910 the bore was $4\frac{1}{4}$ inches and the stroke $4\frac{1}{2}$ inches.

Save on Freight Charges—Since the reduction of freight rates on the transportation of motor cars into Southern California, which reduced rate went into effect October 1, 1910, approximately \$100,000 in freight charges have been saved by Los Angeles dealers.

Will Make Pneumatic Wheels—A company to manufacture a pneumatic wheel for motor cars, which, it is said, will be a combination wheel and tire, has been organized in Indianapolis under the name of the International Pneumatic Wheel Co. Those interested in the concern, which has been incorporated with an authorized capitalization of \$100,000, are W. H. Alford, Walter S. Johnson and J. M. Dennis.

Grand Rapids' Garages—Grand Rapids, Mich., has had an excellent year so far as the building of garages has been concerned. According to the books in the building inspector's office sixty-three permits were issued in 1911 for the building of garages or the remodelling of other structures into shelters for motor cars. The total value of the improvements is given as \$48,548. Sixty of the permits were for private garages.

Case Branch for Milwaukee—It is reported that the J. I. Case company, of Racine, Wis., which recently increased its capital stock from \$5,000,000 to \$40,000,000, and is now working on an expansion policy, intends to establish a large branch at Milwaukee this year. It is said that options have been taken on a site at Grand avenue and Twenty-eighth street and that a large fireproof building of artistic architecture will be erected.

Cole Shortens Car Name—Following the policy of the majority of motor car builders, the Cole line of motor cars have dropped the figures 30 and 30-40 which have been used after the trade name of their car, Cole. These figures which signified the horsepower of the car had a real value from an advertising standpoint, but the officials of the Cole Motor Car Co., in increasing the horsepower of the car, found that the figures really were confusing. Therefore the board of Cole directors of

Among the Makers



WHERE MACK TRUCKS ARE MADE AT ALLENTOWN, PA.

Coming Motoring Events, Including List

Milwaukee
January 13-19—Milwaukee show; Milwaukee Automobile Dealers' Association, B. J. Ruddle, manager.

Philadelphia
January 13-27—Show of Philadelphia Automobile Trade Association, Philadelphia, Pa.
January 15-20—Show at Toledo, O.; H. V. Buelow, manager, Toledo, O.

Madison Garden
January 15-20—Twelfth annual show, Madison Square garden, New York; commercial division, Automobile Board of Trade, H. A. Bonnell, manager, 7 East Forty-second street, New York.

January 18-20—Annual meeting Society Automobile Engineers, New York.

January 22—Show at Dubuque; Dubuque Automobile Dealers' Association, D. H. McCarthy, secretary, Dubuque, Ia.

Detroit
January 22-27—Show at Detroit, Mich.; Detroit Automobile Dealers' Association; W. R. Wilmot, manager, 501 Bowles street, Detroit, Mich.

January 22-27—Show at Providence; Rhode Island Licensed Automobile Dealers' Association; Arthur S. Lee, manager, 52 Richmond street, Providence, R. I.

January 22-27—Fourth annual Show, Rochester, N. Y. C. A. Simmons, manager, 230 William street.

Chicago
January 27-February 10—Eleventh annual show, Coliseum, Chicago; National Association Automobile Manufacturers, S. A. Miles, manager, 7 East Forty-second street, New York. Pleasure cars, January 27-February 3; commercial, 3-10.

January 27-February 10—Annual show, Pittsburgh, Pa.; Automobile Show Dealers' Association of Pittsburgh. Pleasure cars, January 27-February 3; commercials, February 3-10.

January 29-February 3—Second annual show, Scranton, Pa.

FEBRUARY

February 1-7—Tentative dates for show at Washington, D. C.

February 3-9—Show at Albany, N. Y.

February 3-10—Show at Harrisburg, Pa.

February 3-10—Show at Montreal, Canada; Automobile Club of Canada.

February 5-10—Show of Automobile Dealers' Association of Wilkes-Barre; R. A. Rosenkrans, 37 West Market street, Wilkes-Barre, Pa., secretary.

February 5-12—Show at Buffalo, N. Y.; G. C. Fehrman, manager, 755 Ellicott square.

February 5-17—Annual exhibit, St. Louis; F. W. Payne, manager, St. Louis, Mo. Pleasure cars, 5-10; commercials, 12-17.

February 10-17—Show at Atlanta, Ga., of Atlanta Automobile and Accessory Dealers' Association; Homer C. George, manager.

February 12-17—Show at Troy, N. Y.

Kansas City

February 12-17—Show at Kansas City, Mo.; Wallace J. Terry, manager, 302 Long building, Kansas City, Mo.

February 12-17—Show at St. Paul; St. Paul Motor Car Dealers' Association; W. R. Wilmot, manager.

February 12-19—Dayton, O., show; Elmer C. Redelle, manager, Dayton, O.

February 13-17—Show at Grand Rapids, Mich.

February 14-21—Pittsburgh show; Pittsburgh Automobile Show Association, T. I. Cochran, manager, Pittsburgh, Pa.

the Cole family, the Cole distributing agents, at a conference decided that in the future the name of their car should just be the Cole.

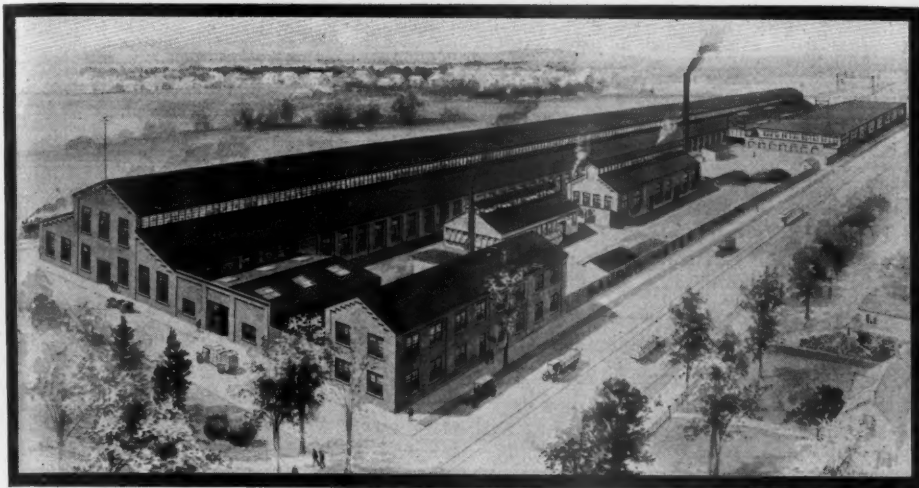
Evansville Will Have Show—Motor car dealers of Evansville, Ind., will have a motor car show in that city the second week in February. It is probable that each dealer will exhibit in his own establishment.

Big Truck Plants—Now that there has been a consolidation of Mack and Saurer truck interests, the International Motor Co. is in control of two big plants. The Mack is made at Allentown, Pa., where the shops occupy 22 acres, the man-

ufacture being conducted in nine separate buildings, while 640 men are employed, turning out ninety trucks a month. The Saurer plant is at Plainfield, N. J., the five buildings occupying 5 acres.

Ruling Pleases Dealers—The Iowa department of justice last week ruled that an Iowa dealer by taking out a license for each car in his stock can escape having his stock listed for taxation, and is also exempt from the Iowa dealers' license fee. The department holds that when a dealer takes out an individual license for each car in his garage he can transfer that license to the purchaser of the car by paying the \$1 transfer fee required by law.

and Dealers



SAURER MOTOR TRUCK PLANT AT PLAINFIELD, N. J.

of Dates Selected for Shows of the Winter

February 17-24—Show at Newark, N. J.; New Jersey Automobile Exhibition Co.

February 17-24—Cleveland show; Cleveland Automobile Show Co., F. H. Caley, manager, Cleveland, O.

Minneapolis
February 17-24—Minneapolis show; Minneapolis Automobile Show Association; H. E. Pence, manager, Minneapolis, Minn.

February 19-22—Show of Minneapolis Automobile Dealers' Association, Minneapolis, Minn.

February 19-24—Show at Hartford, Conn.; Automobile Club of Hartford.

February 19-24—Seventh annual show of Omaha Automobile Association, C. G. Powell, manager, Omaha, Neb.

Cincinnati
February 19-25—Annual pleasure car show; Cincinnati Automobile Dealers' Association, E. A. Kruse, secretary, Cincinnati, O.

February 20-24—Show at Binghamton; Automobile Dealers' Association; R. W. Whipple, secretary, Binghamton, N. Y.

February 20-25—Show of Automobile Dealers' and Traders' Association, New Orleans, La.

Baltimore
February 20-28—Annual show, Baltimore, Md.; Baltimore Automobile Dealers' Association.

February 21-28—Toronto show; Toronto Automobile Trade Association; F. I. Fox, secretary, Toronto, Canada.

February 20-28—Annual show, Baltimore, Md.

February 22-24—Show at Bloomington, Ill.
February 24-March 2—Annual show; Brooklyn Motor Vehicle Dealers' Association, Brooklyn, N. Y.

February 26-29—Annual commercial exhibit; Cincinnati Automobile Dealers' Association, E. A. Krause, secretary, Cincinnati, Ohio.

February 26-March 2—Show at Paterson, N. J.; Paterson Automobile Trade Association.

February 26-March 2—Second annual show Elmira Automobile Club, L. Blumenstein, manager, Elmira, N. Y.

February 26-March 2—Show at Sioux City, Ia., of Sioux City Automobile Dealers' Association.

February 26-March 3—Mississippi Valley show, Quincy Automobile Club, Quincy, Ill.; Harry F. Hofer, director.

February 28-March 2—Annual Davenport show; Woodworth Clum, manager, Commercial Club building, Davenport, Ia.

MARCH

March—Show at Norfolk, Va.

Boston

March 2-9—Pleasure car show, Boston; C. I. Campbell, manager.

March 4-9—Show at Des Moines; C. G. Van Vliet, secretary, Des Moines, Ia.

LOUISVILLE

March 6-9—Fifth annual show at Louisville, Ky.; Louisville Automobile Dealers' Association.

Denver

March 4-9—Show at Denver; G. A. Wahlgreen, manager, Denver, Colo.

March 6-9—Advertisers' motor show, Tiffin, O.

March 11-16—Show at Cedar Rapids, Ia.; M. P. Beck, manager.

March 13-20—Show of Boston Commercial Motor Vehicle Dealers' Association, Mechanics' building, Boston; C. I. Campbell, manager.

March 12-16—Show at Syracuse, N. Y.; Syracuse Automobile Trade Association; Syracuse, N. Y.

APRIL

April 6-13—Show at Ottawa, Ont.; Ottawa Valley Motor Car Association.

If he only takes out a dealer's license, then the purchaser must take out the state license, and he if he in turn sells his machine must transfer the license by first paying the state a transfer fee of a dollar.

Atlanta in the Market—The motor cars are making good in municipal work in Atlanta is evident from the fact that various city departments have asked for \$70,000 worth in January. The requests include: Four new pieces of motor apparatus for the fire department, three trucks for the sanitary department, three trucks for the waterworks department, two runabouts for the city physicians and

a motor ambulance for Grady hospital. Several are certain to be bought early in 1912.

Marcus Allen Joins Federal—Announcement is made by the Federal Rubber Mfg. Co., of Milwaukee, of the appointment of Marcus Allen as manager of its New York branch, with headquarters in New York city.

Estimate on Tire Production—R. R. Drake, manager of the service department of the United States Tire Co., figures that since the beginning of 1907 the tire makers of America have marketed in the neighborhood of 8,000,000 pneumatic tires, the yearly output being as follows: 1907,

900,000; 1908, 1,050,000; 1909, 1,350,000; 1910, 1,800,000; 1911, 2,900,000; total, 8,000,000. He thinks the demand in 1912 will approximate 4,000,000 tires.

Name Chosen—The Brooks Motor Wagon Co. is the name chosen for the concern at Saginaw, Mich., which has taken over the Duryea commercial car interests. The company has been incorporated for \$20,000 by F. G. Palmerton, Joseph Seeman and C. G. Brooks.

Dealers Will Banquet—The annual banquet of the Chicago Automobile Trade Association will be held the night of February 1. Among the speakers invited are Colonel Charles Clifton W. E. Metzger, Hugh Chalmers, Henry Ford, E. P. Chalfant and R. D. Garden.

Will Make Parts—The Empire Gear and Mfg. Co. has been formed at Indianapolis for the purpose of manufacturing parts, particularly motors, transmissions and rear systems. Frank S. Clark is president, Charles H. Hurd vice-president, Howard M. Talbott secretary, Albert H. Off treasurer, and Wesley Hauffer superintendent.

Organize in Wilkes-Barre—Application for a charter has been filed by the Automobile Dealers' Association of Wilkes-Barre, Pa., with the following officers named: President, Charles L. Davis; vice-president, Robert Johnson; secretary-treasurer, R. A. Rosenkranz; governors, E. C. Yapple and William S. Lee.

Takes Over Electrobola Rights—The Garage Equipment Mfg. Co., 742-748 South Pierce street, Milwaukee, a large manufacturer of accessories and supplies, has taken over the manufacture and sale of Electrobola lighting systems, the invention of Percy C. Avery, of Milwaukee.

Parts Plant Sold—D. W. Singleton, receiver for the Dunlap Engineering Co., of Columbus, O., which has a plant on Parsons avenue for making parts, among other things, has transferred the plant to T. C. Dunlap for a consideration of \$37,000. The plant in turn was transferred to the Dunlap Mfg. Co., a new corporation formed to take over the plant and operate it.

Moyer Re-elected—At the annual meeting of the Des Moines Automobile Dealers' Association of Des Moines, Ia., W. E. Moyer was re-elected president and the following directors chosen: C. G. Van Vliet, C. L. Herring, Dean Schooler and V. W. Reynolds. The dealers discussed plans for the show in March and decided to charter a special car to take them to the Chicago show.

Studebaker After Light Plant—Reports from Anderson, Ind., state that the Studebakers are negotiating for the purchase of the plant of the Carbo-Light Mfg. Co., of Anderson, which makes gas lighting apparatus for motor cars. It is said that if the deal goes through a \$100,000 company will be formed and a big plant erected. The Carbo-Light company is owned by James Burkdall, Percy Doyle, Elmer Albright and others.



Brief Business Announcements

CHICAGO—The Anderson Engine Co. has established an office here at 160 North Fifth avenue.

Denver, Colo.—The Weld County Auto Co., of Greeley, has been appointed agent for Weld county, Colo.

Wapakoneta, O.—The Elliott & Payne Garage Co. has taken the agencies for the Overland, Matheson, Marion and Garford truck.

Baltimore, Md.—Otto R. Bieler, formerly with the Carl Spoerer's Sons Co., has been appointed engineer and sales manager of the Baltimore Motor Car Co.

Atlanta, Ga.—The Lockwood-Ash Motor Co. will soon open a distributing warehouse in Atlanta. George F. Hardy will have charge of the southern business, with headquarters at 630 Edgewood avenue.

Montreal—The French Automobile Import Co., of which T. D. Payenneville is manager, has filed a judicial abandonment for the benefit of its creditors. The liabilities amount to about \$16,000, divided among thirty-five creditors.

Denver, Colo.—William Hammil, until recently salesman for the McDuffee Motor Co., of this city, has been appointed district traveling representative for the Hudson company and is making his headquarters with Tom Botterill, Denver agent for the Hudson.

Peoria, Ill.—C. L. Turner, for many years associated with the Peoria Automobile Co., of this city, and later with the Cadillac sales agency, has opened a garage at 2006 Main street. The building is a two-story brick, 52 by 100, equipped with elevator, steam heat and sprinkling system.

Jackson, Mich.—William R. Eaton, who for 4 years has been manager of the Eaton garage of this city, has severed all connections and disposed of his interest in that concern. The Eaton garage will drop its general garage business and devote its time and energy to the sales end of the business.

Omaha, Neb.—The T. G. Northway Co. recently contracted with the following for the Brush and Detroit cars in its territory: Ralph C. Scott, Beatrice; Smalling & West, Nebraska City; P. M. Anderson, Filley, Neb.; P. J. Schaell, Julian, Neb.; J. C. Cleveland, Storm Lake, Iowa, and August Gorden, Plattsmouth, Neb.

Cincinnati, O.—The Ohio Motor Car Co. reports the opening of an agency at Toronto with Hess & Meyers, who, in turn, have established one sub-agency at Massey, Ontario. They have erected in Toronto a new building, which they will occupy as a garage and sales room, which will be 50 by 150, three stories high. This will

be located on Richmond street, between King and Queen.

San Francisco, Cal.—The Lewis Motor Truck Co. has commenced the manufacture of motor trucks in San Francisco.

Des Moines, Ia.—The Brown-Corley-Ellis Co. has taken the Des Moines agency for the Flanders electric.

Omaha, Neb.—The Omaha branch of the Cartecar company has moved into new quarters at 1113 Farnam street. The building is three stories and basement.

Syracuse, N. Y.—W. Snowden Smith, Jr., has taken the agency for the Simplex cars and his territory includes the counties of Onondaga, Cortland, Madison and Oswego.

Syracuse, N. Y.—A. M. Zimbrich, of Rochester, announces that W. H. Downey of that city will succeed W. S. Horton as manager of the Stoddard-Dayton garage in this city.

Chicago—Brent B. Neal, formerly sales manager of the Babcock Electric Carriage Co., has been appointed general manager of the district of Indiana, Illinois, Iowa and Wisconsin, with headquarters in Chicago.

Lancaster, O.—C. L. Multz, of Lancaster, O., has taken on a line of light delivery wagons manufactured by the Lincoln Motor Car Works of Chicago. Mr. Fultz will distribute Lincoln delivery wagons in Fairfield and Pickaway counties.

Indianapolis, Ind.—R. D. Eaglesfield and J. H. Darlington have taken the agency for the White in Indianapolis, succeeding the factory sales branch established by the White company some month ago. There is no change in the Indianapolis quarters of the White.

Minneapolis, Minn.—C. M. Stucker, for some time connected with the corporation, has been appointed by the Deere & Webber Co., as manager of the motor car department, which controls the distribution of all products of the Velie Motor Vehicle Co., Moline, Ill. He succeeds W. J. Geer, resigned.

Philadelphia, Pa.—Henry R. Schoch, who about a year ago purchased a property approximately measuring 75 by 180 feet at the southwest corner of Eighteenth and Market streets, will improve the site by the erection of a large garage and motor car sales building, to cost in the neighborhood of \$100,000.

Minneapolis, Minn.—C. R. Newby, manager of the E-M-F Sioux Falls Co., the Studebaker Corporation representative in South Dakota, has been appointed in charge of the Minneapolis branch, vice Frank H. Smith, appointed assistant sales manager at Detroit headquarters. C. E. Stebbins, for 2 years with the corpora-

tion's order department at Detroit, succeeds Mr. Newby at Sioux Falls.

Pine Bluff, Ark.—The Hearn Automobile Co. now is located in its new home at 214-216 Pine street.

York, Pa.—J. B. Ogden, 31 West Philadelphia street, will handle the Abbott-Detroit in this city and vicinity during the year 1912.

Marietta, O.—The Marietta Motor Car Co., which for several years has had quarters in the Masonic Temple, removed to the Remke block, on Second street.

Montreal—E. Major & Co., 35 St. Catherine street west, have secured the agency for the Palmer-Singer. They have also the Delaunay-Belleville and are sub-agents for the E-M-F.

Syracuse, N. Y.—The Chase Motor Truck Co. has appointed Charles E. Reynolds, of this city, district manager, his territory covering Chicago and certain portions of the middle west. His headquarters will be in Chicago.

Bowling Green, O.—John W. Underwood has resigned his position as cashier of the Wood County Savings Bank of Bowling Green to take up the duties as a part of the management of the Bowling Green Motor Car Co.

Chicago—The Findeisen & Kropf Mfg. Co. has added to its list of distributors the following dealers: Ballou & Wright, 86 Sixth street, Portland, Ore.; Browne & Leacy, Real Estate Bank building, Savannah, Ga., and Joseph Woodwell Co., 201 Wood street, Pittsburgh, Pa.

Toledo, O.—H. E. Throne, of Toledo, has opened quarters at 820-822 Madison avenue, where he will in the future handle the Mitchell line of cars. He has thirteen counties in northwestern Ohio. Associated with him are F. Fordham, Jr., C. L. Sturtevant, of Delta, O., and H. E. Hoffman, of Bryan.

York, Pa.—The Pullman will be handled during the 1912 season by the following agents: L. M. Alleman, Littlestown, Pa.; Theodore Barnes & Co., 1222 H street, northwest, Washington, D. C.; Cimiotti Brothers, 1653 Broadway, New York; Clayton & Donahey, Main street, Freehold, N. J.; B. Franklin Futer, 215 North Prince street, Lancaster, Pa.; Island Garage, Wheeling, W. Va.; Keystone Motor Car Co., 1023-25 Market street, Harrisburg, Pa.; M and R. Motor Car Co., 367 Fairfield avenue, Bridgeport, Conn.; Mecklenburg Auto Co., Charlotte, N. C.; Meier Brothers Co., 211 East Main street, Madison, Wis.; Pullman Motor Car Co., Broadway and East Fifty-fifth street, Cleveland, O.; Pullman Motor Department, Boston Motor Co., 17 Ipswich street, Boston, Mass.; William Stevenson's Gar-

age Co., 32 Market street, Morristown, N. J.; Charles H. Worden, Binghamton, N. Y.

Montreal—The Regal Motor Car Co. of Detroit has opened a branch in Montreal on St. Lambert hill, near St. James street.

Utica, N. Y.—The Utica Motor Co. is remodeling its Jay street plant, formerly a garage, and will use it for a retail sales department.

Syracuse, N. Y.—The American Motor Sales Co. has taken the agency for the Cole and the name of the concern has been changed to American-Cole Motor Co.

Dallas, Tex.—C. U. Whiffen, of Dallas has purchased an interest in the Appel & Burwell Rubber and Tire Co., of Dallas, and will assume active management of the sales of the firm.

Louisville, Ky.—The Louisville branch of the Ford Motor Co. has moved from its temporary quarters at 437 South Second street to permanent quarters in its garage and salesrooms at 931 South Third avenue.

Booneville, Mo.—Johnson & Stephens have recently opened up what is said to be the largest garage in the state outside of St. Louis or Kansas City. The building is of concrete construction throughout, 80 by 180 feet, and is equipped with elevator

to second floor; also has large display room and machine shop. They will handle the Studebaker line exclusively.

Syracuse, N. Y.—John D. Quinlan, of Jamesville, has taken the Syracuse agency for the Schacht.

Syracuse, N. Y.—James W. Barber, of Syracuse, has located with Frank P. Anderson, central New York agent for the Hupmobile and Alco.

Bristol, Conn.—C. L. Clark, formerly with the Driggs-Seabury Co. and the Kelly Motor Truck Co., has joined the laboratory staff of the New Departure Mfg. Co.

Minneapolis, Minn.—The LaCrosse Implement Co., Minneapolis, has been made northwestern distributor of the Dart commercial line. J. F. Cross is sales and advertising manager.

Toledo, O.—The Motor Car Sales Co. has been organized. L. E. Barger and C. A. Van Dusen will be in charge of the business of the concern, which will handle the Abbott-Detroit cars.

Atlanta, Ga.—The Pope-Hartford, represented by Steinhauer & Wight until they gave it up to handle Cadillacs exclusively, again has gone into active competition for Atlanta business with L. S. Crane, of Hartford, Conn., in charge of the local branch. He is temporarily located at 34 Auburn

avenue, but will soon secure a location on Peachtree street.

Syracuse, N. Y.—Roy Durston is now associated with Victor Vernon in the American-Cole Co.

Clyde, O.—The Clyde Auto Sales Co., of Clyde, O., distributor for the Elmore for northwestern Ohio, has taken on the Detroit for the same territory.

Denver, Colo.—W. A. Peck, traveling representative of the Midland Motor Car Co., of Moline, Ill., has appointed as the Denver agent for the Midland, the Alkire Motor Car Co., of 1650 Glenarm place.

Detroit, Mich.—The Timken Roller Bearing Co. and the Timken-Detroit Axle Co. have engaged as assistant advertising manager Myron Townsend, formerly sporting editor of the Commercial Tribune of Cincinnati. Mr. Townsend will make his headquarters at the office of the Timken Roller Bearing Co. at Canton, O.

Montreal—Charles Arnold, formerly manager of the National Motor Co., has organized the International Car Agencies, with headquarters at 855 St. Catherine street, West. The International has three agencies: the Canada, made by the Canada Motors Co., at Galt, Ont., the Inter-State and the Whiting. The last-named car will be a new one to Montreal.

Toledo, O.—Buckeye Auto Service Co., capital stock \$5,000; incorporators, F. E. Kirtley, T. Wooster, A. B. Cohn, V. C. Southard and H. Beeman.

Richmond, Va.—American Adjustable Wheel Co., Inc., capital stock \$100,000; incorporators, R. H. Bruce, C. Vaden, J. H. Pinner and J. C. Davis.

Pittsburgh, Pa.—Pittsburgh Motor Truck Co., capital stock \$5,000; incorporators, W. C. Jacobs, J. J. Cosgrove and J. Lee McKnight.

Brookfield, Mo.—Burgess Patent Tire and Mfg. Co.; incorporators, J. W. Burgess, G. T. Burgess and D. T. Smith.

Los Angeles, Cal.—Amalgamated Motors Co., capital stock \$500,000.

Philadelphia, Pa.—C. V. Stahl Motor Co., capital stock \$5,000; to manufacture motors; incorporator, John Schanlin.

Kansas City, Mo.—White Motor Co., capital stock \$6,000; incorporators, Leigh Hunt, R. C. Clark and H. D. Ellinwood.

Nashville, Tenn.—Tennessee Auto Co., capital stock \$3,000.

Detroit, Mich.—Nickwals Co., capital stock \$100,000; to manufacture motor parts and accessories; incorporators, H. W. Nickwals, T. A. Nickwals and H. M. Lau.

Hammond, N. Y.—Curtiss Motor Co., capital stock \$600,000; incorporators, M. Wheeler, J. S. Fanciulli and G. R. Hall.

Greensboro, N. C.—Ford Garage and Sales Co., capital stock \$10,000; incorporators, R. D. Markham, W. H. McGlamery and W. M. Combs.

St. Louis, Mo.—American Automobile Insurance Co., capital stock \$200,000; president, Charles W. Disbrow.

Chicago—Excelsior Motor Mfg. and Supply Co., capital stock \$500,000; incorporators, Ambrose A. Worsley, Marx Lochwing and Samuel W. Jackson.

Dover, Del.—Tri-Mount Auto Truck Co., capital stock \$100,000.

Plainfield, N. J.—O. A. R. Motor Co., capital stock \$60,000; incorporator, O. A. Reed.

East Orange, N. J.—Davis Carriage Co., capital stock \$150,000; incorporators, C. O. Geyer, F. E. Ruggles and L. Matthews.

Huntington, N. Y.—Motor Repair Co., capital stock \$5,000; directors, R. W. Lindsay, R. E. Nebel and K. C. Bates.

Charlotte, N. C.—Piedmont Motor Car Co., capital stock \$25,000; incorporators, G. D. White and E. V. Patterson.

Swampscott, Mass.—E. L. Brown Automobile Co., capital stock \$25,000; incorporators, E. L. Brown, M. H. Randall and J. D. Bee.

Boston, Mass.—Automobile Horn and Pump Co., capital stock \$25,000; incorporators, Joseph Payne, A. J. Son and A. Dubrawski.

Recent Incorporations

Mount Holly, N. J.—Ottomobile Co., capital stock \$500,000; incorporators, W. D. Warren, W. S. Rendell and W. S. Jones.

Newark, N. J.—C. L. Williams, capital stock \$50,000; to deal in supplies; incorporators, C. L. Williams, A. C. Hunt and A. Hammond.

Newark, N. J.—Nuse Wagon and Automobile Co., capital stock \$50,000; incorporators, Fred Nuse, Sr., Fred Nuse, Jr., and Louis Nuse.

St. Louis, Mo.—American Motor Sales Co., capital stock \$5,000; to deal in motor cars; incorporators, C. T. Strauss, F. B. Nulsen and C. W. Waughop.

Rock Island, Ill.—Horst & Streiter Co., capital stock \$10,000; incorporators, H. W. Horst, M. T. Horst and M. F. Streiter.

Springfield, Ore.—Springfield Auto Truck Co.; to manufacture trucks; Welby Stevens, president, and F. D. Tower, manager.

Pittsburgh, Pa.—Pittsburgh Chalmers Co.; to deal in motor cars; incorporators, Arthur C. Simler, J. B. Ramsey and S. E. Murphy.

Philadelphia, Pa.—American Motor Parts Co., capital stock \$25,000.

Kansas City, Mo.—Automobile Combination Lock and Circuit-Breaker Co., capital stock \$25,000; incorporators, Smith Baker, S. R. Hill and J. Q. Nowlin.

Rochester, N. Y.—Cutting Auto Sales Co., capital stock \$15,000; directors, L. E. Wilcox, A. M. Wilcox and J. W. Wood.

Pittsburgh, Pa.—Universal Motor Car Co.; to deal in motor cars.

Hoboken, N. J.—Hudson Motor and Garage Co., capital stock \$50,000; general motor car business; incorporators, C. C. Moller, R. W. Fulcher and M. Moller.

Springfield, O.—H & S Auto Co., capital stock \$10,000; conduct garage and deal in motor cars; incorporators, John W. Hennessy, J. P. Sultzbaugh and M. R. Sultzbaugh.

Chicago—Rene Safety Auto Wheel Mfg. Co., capital stock \$50,000; incorporators, J. Ayotte, Charles F. McKay and J. E. Evans.

Burlington, Vt.—Champlain Garage Co., capital stock \$10,000; incorporators, H. R. Watkins, C. Morgan and L. W. Welch.

Des Moines, Ia.—Bernard-Turner Automobile Co., capital stock \$60,000; J. C. Bernhard, president, and Jay E. Turner, secretary.

Reading, Pa.—Four Wheel Auto Jack Co., capital stock \$5,000; to manufacture motor car fixtures.

Brooklyn, N. Y.—Brooklyn Auto Top Co., capital stock \$1,500; directors, Solomon Segall, Benjamin Marvin and Paul C. Bahrnburg.

Utica, N. Y.—Crim-Bonner Auto Co., capital stock \$5,000; to deal in motor cars; directors, Howard D. Crim, Nellis B. Bronner, Charles W. Crim and Myron G. Bronner.

Camden, N. J.—League of American Motorists; capital stock \$10,000; to protect motorists; incorporators, S. L. Gans, Harry N. Goldsmith and Frank Voigt.

Philadelphia, Pa.—Gibney Motor Supply Co., capital stock \$50,000.

Wilmington, Del.—Tri-Mount Auto Truck Co., capital stock \$100,000; incorporator, Courtland E. Pierson.

Columbus, O.—E-M-F and Flanders Sales Co., capital stock \$10,000; to deal in motor car supplies and accessories; incorporators, George E. Thomas, H. H. Kellenberger, A. C. Secrest, David Thimos and Franklin Rubrecht.

Columbus, O.—Star Vulcanizer Mfg. Co.; to manufacture motor car specialties; incorporators, David F. Detrick, W. L. Fox and N. J. Fountain.

Bingham, Ala.—Highland Garage Co., capital stock \$5,000; president, J. H. Hooper; secretary, C. G. Sharpe.

Youngstown, O.—Drury Wells Motor Co., capital stock \$10,000; incorporator, F. E. Drury.

Dover, Del.—Aircase Tire Filler Co., capital stock \$100,000.

St. Louis, Mo.—Missouri Auto and Supply Co., capital stock \$2,000; incorporators, Ben W. Dalzell, Wm. Bennecke and Wilbur E. Schwartz.

Camden, N. J.—United Motors Co., capital stock \$125,000; to manufacture motor cars; incorporators, M. N. Carroll, W. B. MacDonald and H. Berger.

Chrisman, Ill.—Rayfield Motor Co., capital stock \$75,000; to manufacture motor cars; incorporators, F. K. Thayer, A. E. Schnitker and E. E. Steley.

Windsor, Ont.—Windsor Auto Axle Co., Ltd., capital stock \$15,000; to manufacture motor cars; director, Lester D. Cooley.

Cleveland, O.—Weger Motor Co., capital stock \$100,000; to manufacture motors; incorporator, E. C. Rock.

Saginaw, Mich.—Brooks Motor Wagon Co., capital stock \$20,000; incorporators, F. C. Palmerton, J. Seemann and C. G. Brooks.



Legal Lights and Side Lights

NEW KENTUCKY BILL RADICAL

A DRASTIC bill, providing that a motor car must stop when approaching a horse on the public highway—a point derived from the present Virginia law—and regulating the speed and license fee of motor cars and fixing the liability of owners in case of accidents, was introduced Friday in the Kentucky state senate by Senator Hermann D. Newcomb, of Louisville.

The measure completely revolutionizes the present motor law. It raises the present schedule of state licenses from \$5, \$10 and \$25 to \$10, \$25 and \$100. One of the most drastic features of the bill is the provision making the owner of the car criminally and civilly liable, whether he was present or not, in case of a collision. The bill also changes the law of evidence and places the burden of proof on the chauffeur or operator of the machine. The speed limit is fixed at 8 miles per hour in cities and 20 miles per hour in the country. In every case of accident the owner may be proceeded against as well as the chauffeur. The bill also carries the provision of the Virginia law providing that whenever a horse is approaching the motor car must come to a full stop and the chauffeur must lead the horse past the machine.

When asked whether the numerous motor accidents that have occurred in Louisville caused him to introduce the bill, Senator Newcomb replied in the negative. He said that for a long time he had felt that the law having to do with the speed of motor cars and the liability in the case of accident should be changed. The measure is far reaching and its course in the legislature will be watched with keen interest by owners of motor cars throughout the state of Kentucky.

STREET CAR RULING

The recent officially reported opinion of the superior court of Pennsylvania in the case of Kittanning borough against George H. Burns is of more than ordinary interest, not only to motor car owners but also to motor car dodgers.

Burns was driving his car eastward on a street in Kittanning and passed a street car while it was stopping to take on or let off passengers. He was prosecuted by the burgess of Kittanning for violation of the general act of assembly of 1909, which makes it an offense to drive a motor car past a street car "on the side on which passengers get off or on until the car has started, and any passengers who have alighted shall have gotten safely to the side of the road."

Burns contended that as he passed the car on the right side of the street, and on the left side of the car, he was not guilty of any offense. The burgess did not

accept his view of the case and convicted him. Burns appealed to the court of Armstrong county, and when the case was there decided against him, to the superior court. This court held that his conviction was proper.

Judge Henderson, who wrote the opinion, said that the position of Burns "would be persuasive if there were any law in this state which requires passengers on street cars to get off on one side or the other of the car when there is but a single track on the street, but no legislation has been brought to our attention imposing any such duty, and the habits of travelers and the usage of street railway companies in smaller towns and cities, where a single track is laid on streets are so generally contradictory of the appellant's view that we ought not declare that such an obligation exists. The object sought was the safety of persons traveling on street cars. When we consider the speed at which motor cars are permitted to move, the regulation in question is a most reasonable one."

PENNSYLVANIA ROAD POLICY

The dominant issues in the next state campaign and at the next session of the Pennsylvania legislature will be the passage of the public utilities bill and road legislation, declares Governor John K. Tener.

"Contracts have been let to the extent of \$1,500,000, and with the opening of spring contracts will be awarded for the full appropriation," says the governor. "Last year the contract was let for 50 miles of road from Bedford Springs west by way of Ligonier and Greensburg. Negotiations are pending for the taking over of the turnpike from Bedford Springs east to Chambersburg, and when weather permits the work of reconstructing other roads will be pushed to completion at the earliest possible date.

"It is confidently expected that by July next the traveling public will be enabled to go from Pittsburgh to Philadelphia on good roads all the way, and over a distance of 300 miles, which is 50 miles less than over the main line of the Pennsylvania railroad from Pittsburgh to Philadelphia. The work on the road which will practically connect Altoona with Harrisburg through Lewistown Narrows is being pushed as rapidly as possible.

"The policy of the department will be to connect up roads already built and to construct new ones where most necessary."

IMPORTANT MARYLAND DECISION

A decision just handed down by the circuit court of Garrett county, Maryland, holds that on a free highway, where no one is endangered, that practically no speed limits exist—that an arrest cannot be made even if the motorist is going 100 miles an hour.

During the December term of court the case came up in which the owner of a motor car had been arrested for exceeding the speed laws on the new state road near Oakland. At the time of arrest the owner took an appeal from the magistrate to the circuit court. The law under which the arrest was made reads as follows:

"Sec. 140B—No person shall operate a motor vehicle or motor cycle over any public highway of this state recklessly, or at a rate of speed greater than is reasonable and proper, having regard to the width, traffic and use of the highway, or so as to endanger the property or life or limb of any person. If the rate of speed of a motor vehicle operated upon the public highway of this state exceeds 12 miles per hour in the thickly settled or business parts of cities, towns or villages, or 18 miles per hour in the outlying or thickly settled parts of cities, towns or villages, or 25 miles per hour in the open country outside of the limits of cities, towns or villages, such rate of speed shall be prima facie evidence that the person operating such vehicle is operating the same at a rate of speed greater than is reasonable and proper, and in violation of the provisions of this section, and the burden of proof shall be upon him to show that such a rate of speed was not greater than was reasonable and proper as above set forth."

The officer, in making the arrest, claimed that under the law any speed exceeding 25 miles per hour was a violation of the law and subject to arrest and fine. The testimony of the officer was that, according to his timing and measurements, the motor car was going at the rate of between 50 and 60 miles per hour, while the testimony of the driver was that the time he passed the officer the speedometer was between 23 and 25 miles per hour.

Judge Henderson, in rendering a verdict of not guilty, decided that there was virtually no speed limit outside of cities, towns or villages, and that so long as the motorist had a free road and did not endanger the life, limb or property of others he was not liable to the penalties imposed by the law. This decision is of great importance to Maryland motorists, as several had been arrested and fined for exceeding 25 miles per hour on the highway by local magistrates.

